BRITAIN'S LEADING MAGAZINE FOR THE AMSTRAD CPC 464, 664 AND 6128

No.30 MARCH 1988 £1.25

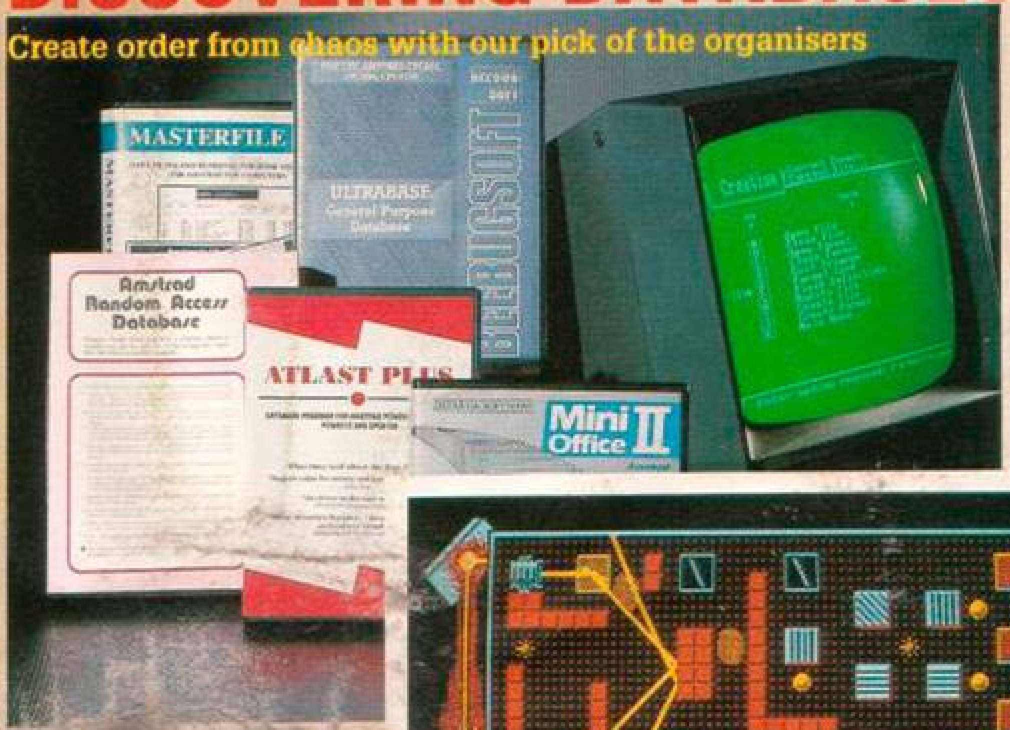
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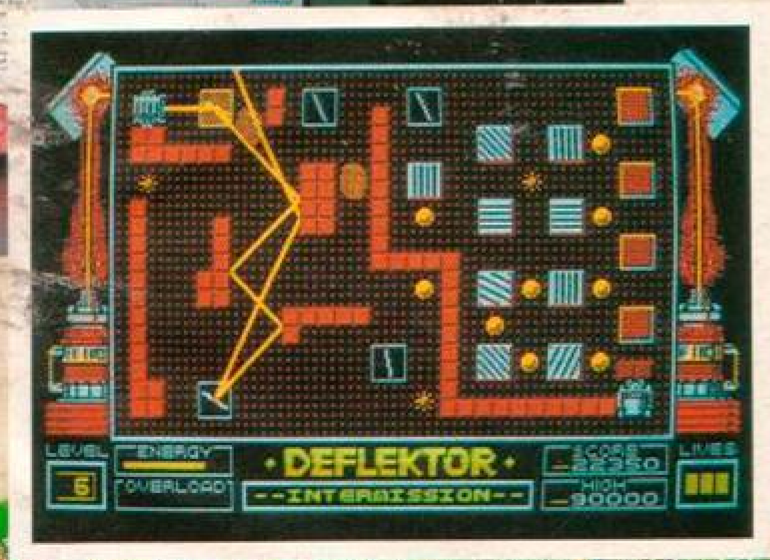
AMSTRAD ACTION

THE MOULD-BREAKING MAGAZINE FROM FUTURE PUBLISHING

DISCOVERING DATABASES

Create order from chaos with our pick of the organisers





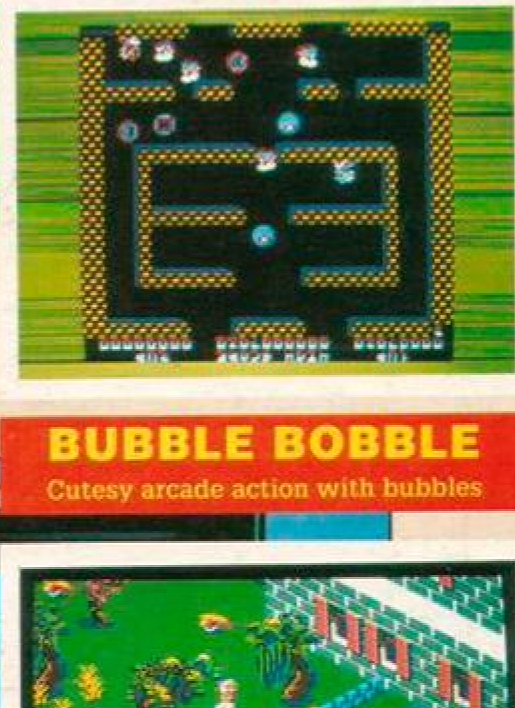
DEFLEKTOR – *MASTERGAME*

Lasers, puzzles and brain twisting action



TURN YOUR 464 INTO A 6128

Step-by-step guide to this simple transformation



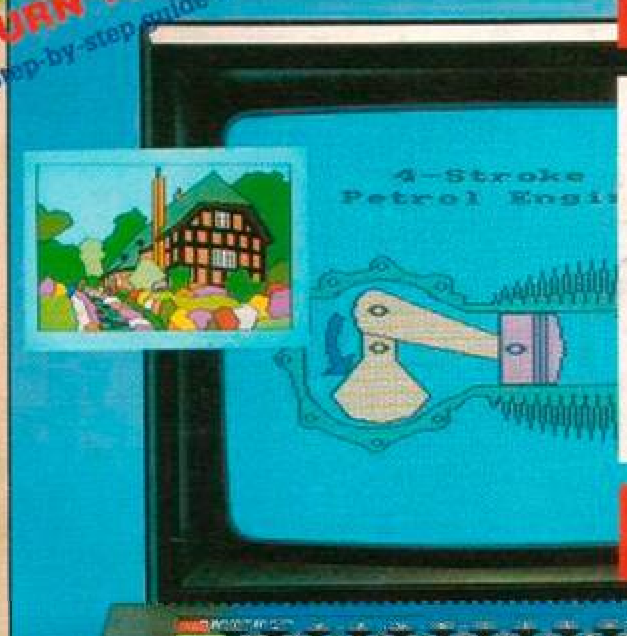
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Cutesy arcade action with bubbles



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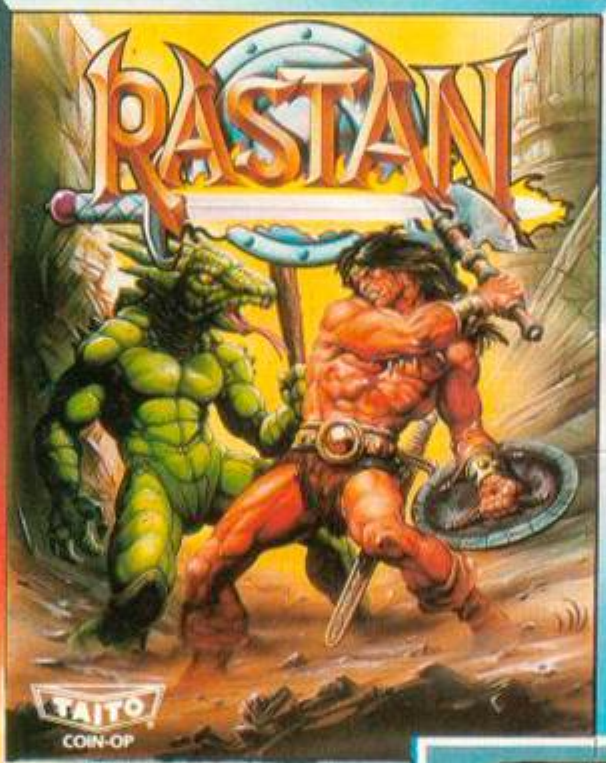


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Parrotry Plus demonstrates some lovely plumage

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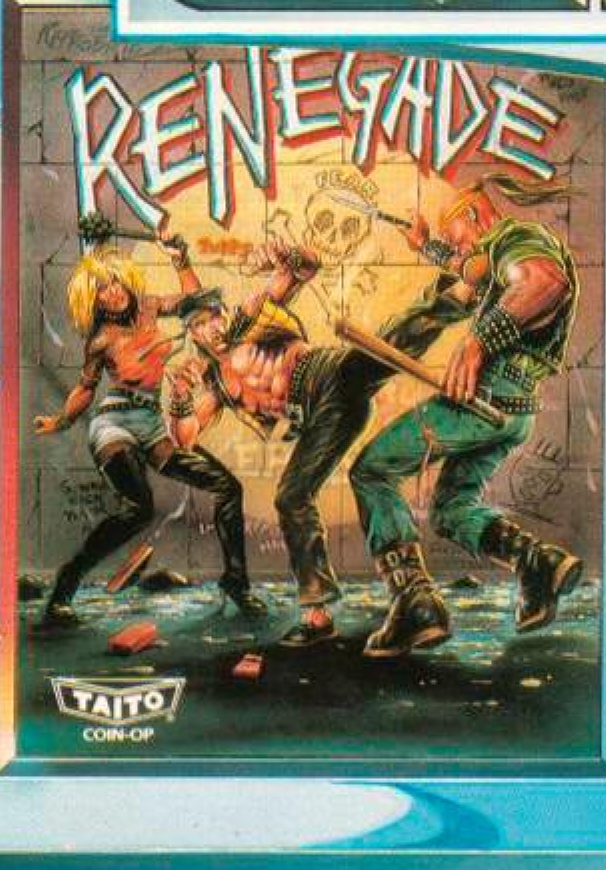
ARC





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The latest hit coin-op from Taito.
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CHAM







In the knife-edge world of the vigilante there is no place to rest, no time to think – but look sharp – there is always time to die! From the city subways to the gangland ghettos you will always encounter the disciples of evil whose mission it is to exterminate the only man on earth who dares to throw down the gauntlet in their path – the Renegade. A breathtaking conversion of the arcade hit by Taito now for your home computer. With all the original play features.
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AMSTRAD ACTION MARCH 1988

FRONT END

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SERIOUS SIDE

SOFTWARE ● HARDWARE ● PROGRAMMING

ACTION & ADVENTURE

GAMES ● MAPS ● PILGRIM

Let's Get Serious

It's long been the case that the CPC's have been recognised as excellent games machines, producing superb graphics and sound. It also has an excellent reputation for being an all-round machine capable of anything from appliance control to digitising. The "serious" emphasis has been on the increase ever since the 6128 came out over two years ago.

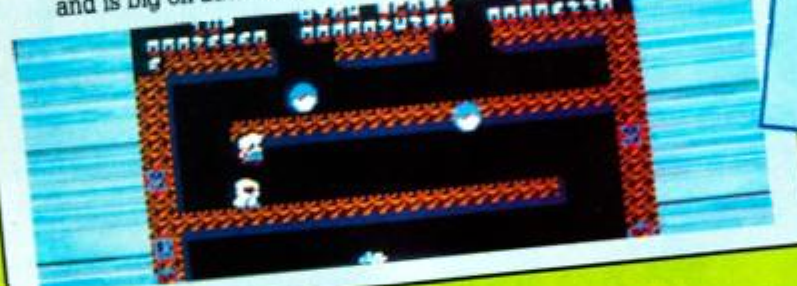
CPC's are now being put to more serious use than ever before, a trend that looks set to continue. As a word-processor it can deliver as much as the PCWs' once teamed up with one of the excellent word-processors available and a printer. Databases and spreadsheets are also widely available, as you'll have seen from recent issues.

More specialised packages are also starting to appear like the *Small Traders Pack* from SD Microsystems and *Stockmarket* from Meridian. The hardware side is also thriving with printer buffers, extra memory, teletext adaptors, rom boards, digitizers, sound add-ons and lots more in the works like hard disk drives.

If you still aren't impressed then let me remind you of a few other things the CPC's are good at: desktop publishing packages, programming languages, educational software, art packages, midi, light pens, sign makers, accounting packages, comms.

The CPC's are just as much value for money today as they've ever been. A hobbyist market is being established, similar to that which exists for the BBC. The difference is that the CPC's are even more versatile and can support a thriving games market as well as a burgeoning serious one. Personally, I don't think there's been a better time to own a CPC because of the massive amount of software support, particularly when you can find it all here in *Amstrad Action*.

Bob



INTERACTION

CREATED BY YOU AND FOR YOU

WRAPPING UP

THINGS TO BUY ● BYE

Amstrad Action
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Telephone 0458 74011

Advertisements: Margaret Clarke
Byrom House, 58 Brinksway, Stockport, Cheshire
Telephone 061 474 7333

Cover photographs: Stuart Baynes Photography, Bath. Tel: 0225 66343
Colour origination: Wessex Reproductions, 325 Wells Road, Bristol BS4 0QL
Printing: Redwood Web Offset, Yeomans Way, Trowbridge, Wilts
Distribution: Seymour Press, 334 Brixton Road, London SW9 7AG
Netherlands distribution and subscriptions: Info-Data Computers, Postbus 97, 3800AB Amersfoort

AMSTRAD ACTION



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3d
DAN DARE II
MEKON'S REVENGE
WINTER ISSUE 1955
The story so far . . .
The Mekon has returned, cunning as ever, to take revenge on the Planet Earth. In this bid to become ruler of earth the Mekon has developed a new genetically engineered race . . . the SUPERTREENS!
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REACTION

The section where you get your say about AA. Libel suits, love letters, letter bombs and all other reactions are dealt with by Bob Wade – so treat him gently. The address to send your letters to is: Reaction, Amstrad Action, 4 Queen Street, Bath BA1 1EJ. Remember we can't reply personally to letters, otherwise we wouldn't have time to produce a magazine each month. All mail-order and subscription enquiries or problems should be aimed at our Somerton address listed on Line-up - we just have to pass them on if they come here.

Desperate database

I decided to buy another piece of highly acclaimed software, *Database Manager*. Once again I ventured to my trusty supplier who, after spending a small fortune on telephone calls tracked down the elusive software house to an address miles from the one printed in your magazine. He was informed that the required piece of software was now "unavailable" (yet you still printed it in your "Christmas Gift Guide"). All was not lost, I could get the new updated version if I was prepared to do the following:

1) wait till some time early 1988 for it to possibly appear on the market.
2) Pay an extra £10!!

James Hampson
Grange over Sands

If you flip to pages 30-32 you'll find AtLast Plus (the enhanced version of AtLast Database Manager) and three other popular databases. If the revamped, re-priced AtLast doesn't appeal, maybe one of the others will suit your needs and pocket better.

Project plea

Now there's a subject guaranteed to draw out an opinion from any computer user as to which is the best system/set up to possess. Personally I use a rather slow clumsy *Amsword* that I used to run on my 464 but have altered slightly so that it would run on the 6128. I have often thought about upgrading it to *Protext* or *Brunword*, preferably on ROM, but I have not yet managed to convince myself that that isn't going over the top somewhat for my needs.

I wonder if you've ever thought about doing a series of articles expanding on those areas that were barely scratched by issue 19. Things like how to disassemble, page the memory maps, write to spare memory etc. I'm sure that many readers have EP(ROM) devices in their homes that they would love to change/enhance (ie central heaters / televisions / VCR's / washing machines) to remove some of those annoying features or to add other useful routines. Obviously you cannot encourage readers to tamper with machinery that may become dangerous if programs are changed, but you could point them in the right direction to find out hardware information for themselves. After all it's not that difficult to program your own burglar/car alarm and although *AA* is not an electronics mag it could go a long way to helping readers with that sort of inclination.

I S McCulloch
Sunderland

The idea of doing electronic/hardware projects is one we've been toying with. If it's the sort of thing you would like to see in AA then write and let us know the sort of projects you would like.

Who,what, when,where, how?

I am writing as I have a few questions to ask.

1. If I buy *Stop Press* with the new MK III mouse, can I use the new mouse with *AMX Art* and will I get a new interface for the mouse?
2. Can I use a DMP1 printer to print out pictures from *AMX Art*?
3. Is the *AA* Cheat Mode book available in the shops? If the Cheat Mode book is not available in the shops, then I would be glad if someone out there had a spare copy to sell.
4. What is the adventure game that got the best overall percentage in the Pilg?

and finally

5. Why doesn't *AA* have a top twenty computer game chart?

David O'Neill
Ardee, Co.Louth

I suggest you contact AMS on 0925 413501 for answers to questions one and two. The Cheat Mode booklet isn't in the shops and we don't have any copies left, so you'll have to rely on some kind soul writing in with one to spare. The Pilg's highest rated game was Lurking Horror, weighing in with 94% and the highest ever atmosphere rating as well at 96%.

We don't have a sales chart because it doesn't reflect the quality of the games – just sales. A readers chart would be a better idea but falling response to one we ran in the past lead to its discontinuation. If enough people want it back we may give it another go.

Pieces of praise

These days there is much criticism of software companies, so for a change could we offer praise for one.

Whereas no other company wanted to help, Treasure Island software have given us an immense amount of assistance in getting our COMX printer/plotter to work with our CPC 6128 and we are now achieving satisfactory results.

Furthermore, we have found their *Parrotry Plus* package more use than all of our so-called Graphics Packages put together – we must have at least six, which proves to us that the big names don't always produce the best software or provide a meaningful after-sales-service. The reproduction /copy facility has to be used to be believed.

J S Gilks, Lidamar Ltd
Sutton Coldfield



Down to Basics

I am as usual using Wm. Simister's Basic Word-Processing program (taken from his book) to write this letter, and am reading his new series with interest, to see what new tips he will come up with; the useful "TRON-TROFF" facility, for instance. I am waiting eagerly to see the line 40 referred to in the text (but not shown on the print out!) for SAVEing text - although, frankly,the program itself is so short that I usually just SAVE the whole thing each time, and indeed have several different versions of it on a disk, LOADing the appropriate one according to whether I want to use proportional, italic or whatever, with or without the letter-head, etc.

If Wm Simister doesn't mention it in a later article, I would like to make one suggestion for 6128 owners: in line 60, he DEFines numeric pad keys which are all right on his 464, but rather accident-prone on the 6128 keyboard, being too close to our cursor keys, so I have DEFined f7 and f9 instead of f0 and f. (full stop). Apart form that, he is quite correct in saying that his program runs equally well on the 6128.

P Russack
Northampton

Music to your ears

Last year you very kindly published a letter from me (Reaction 20) in which I offered my arrangement of Bach's Brandenburg Concertos made with, and for, Rainbird's *Advanced Music System*. This created quite a bit of interest and since then I have produced two more collections for *AMS*. *MUSIC II*, comprising music by Mozart (Eine Kleine Nachtmusic), Mussorgsky (Pictures at an Exhibition), Handel (Water Music – excerpts), Bach (Several major works) and others. Also, *MUSIC III* featuring Vivaldi's "The four seasons" and many other works by the masters.

People with just the basic, non-advanced version of the *Music System* need not feel left out though! I have now just completed a selection of shorter pieces taken from the above, together with a few things I have never before released. This new collection is entitled "Short Works" and contains no less than 50 pieces of music, as .MUS files, for you to listen to. Also, unlike my previous *AMS* disks, you can examine my arrangements and use my envelopes in your own compositions. Like my other collections, it is sadly only available on disk. Also, you must have *TMS/AMS* for the files to work.

I feel that all my collections are good demonstrations of what *TMS/AMS* is really capable of, and are (I hope) entertaining in their own right. If anybody would like to obtain copies of the above just send me a blank 3 inch disk (one for each collection) together with a copying charge of just £2.00 per disk. Or I can supply the disk(s) myself for just £5.00 each inclusive.

Rob Baxter
50 Milton Grove
Whalley Range
Manchester M16 0BP

Points for Diskussion

There has been much discussion in recent months about whether the 464 and the 6128 are going to be phased out. I think the 6128 will survive, but I don't give the 464 a long life expectancy.

If you use your 464 for serious computing, what software is available? Not much, I'd say. All the best word-processors, databases, art programs and spreadsheets are only available on disk – not to mention *Stop Press* as well. The only database or spreadsheet I could find on tape was on *Mini Office II*!

The reason this has happened is that 64K is simply too limiting for the "super-utilities" we have now. A programmer has three choices:

1) Make the program fit into 64K. This is very limiting
2) Produce two versions – one for the 464 and one for the 6128. This would be the ideal solution, but it takes a lot of time and money.
3) Make the program incompatible with the 464.

In a great deal of cases, the third option is being carried out, to the disadvantage of us 464 owners. A similar thing is happening with games, especially adventures. Ask anybody what the best adventure games are, and he would say Infocom's and the *Pawn*, which are both disk only. There are hardly any good tape-based adventures around. This is beginning to happen to arcade games too - think of *Prohibition*, *Koronis Rift* and *Tau Ceti Special Edition*.

My guess is, within two years nobody will be producing any software on tape at all. So start buying your disk drives now, 464 owners!

David Wood
Nth Ferriby

This matter of "life expectancy" is misleading, both CPC's will be around for years yet. I agree with you about tape being phased out, but again I don't think it will happen very quickly because it is still the cheapest and most commonly available form of data storage for the CPC's, Spectrum and 64.



"BUT DAD, YOU NEVER KNOW WHEN ZAPPING ALIENS MIGHT COME IN HANDY..."

What risk disks?

Could you please tell me how error free are disks when you load them, because I am fed up with waiting for about 5 minutes for a cassette to load only to find that it crashes. Does anyone have trouble loading disks? How long do they take to load, for example *Driller*? What are the main problems with disks apart from the price? Hope you can help as I am thinking of getting a disk-drive.

Paul Page
Solihull

Disks are still prone to corruption and crashing like any other storage medium, but you'll find they are infinitely more reliable than tapes. Where possible, a back-up is a good idea in case anything does go wrong. Compared to tape the CPC disks load in the twinkling of an eye – ie under 20 seconds usually.

There are no other main problems apart from the price. Disk drives are expensive and so are disks – particularly when you consider games software in comparison with the tape versions.

Beginning Basic

I have been the very proud owner of a 6128 for a year. My main interest in computers is not games, it's programming. Before I start learning other languages I want to fully grasp Basic. I've worked about half way through the manual and I find that as I advance through it the actual teaching stops at really quite a low level. Then it is all just raw information and data. I was wondering if you could point me in the direction of a good manual which will take me upwards from around this point without starting at the beginning.

David Harris
London

At the moment we are running a feature on Basic programming, Absolute Beginners. Although it is still at a very basic stage, we shall eventually cover advanced

programming techniques. I am sure, however, that you don't want to wait six months before the relevant topic appears; in the meantime, a good book to get your teeth into is Advanced Amstrad Basic by Joe Pritchard. Published by Melbourne House, this paperback book sells for £12.95. ISBN 0 86161 202 7. If you are interested, there is a review of the book in issue 15.



"I WISH YOU'D GIVE THAT POLTERGEIST GAME A REST"

Anyone seen a 6128?

I have been saving for a 6128, so while I was in the local computer centre, looking at the games, I asked the sales assistant why 6128's were not for sale in Dixons, Comet, W H Smiths etc: this was because he was selling 6128's. He said that the reason for 6128's not being on display was because were all sold out and new stocks will not arrive until the summer due to PC's being made in Korea instead of the 6128's (Amstrad had to make a choice). Is all this true and if so where do I buy a 6128? He asked me if I would like to buy one of his 6128's because he only had one left in stock. I offered him £200 deposit, but that was not good enough.

David Tunbridge
Wembley

Sounds like a load of hogwash to me. The only people likely to know what Amstrad's production lines in Korea are or aren't up to, are the top brass at Amstrad. You should be able to get a 6128 through any of the places you mention. If they don't have one in stock now they should be able to order one for you.

Christmas cracker problem

I am having loading problems with your Christmas cracker tape on my 464. The utilities will load ok but the game *The Duct* gives all the impressions of loading, but goes to the end of the tape without doing anything.

Can you give any hints or tips on loading difficult tapes in your great mag.

J Borrett
Newtown

No problem. Here's a summary of what we said way back in issue 8...

The tape deck in the 464 isn't as reliable as one might wish. The playback head can move out of line so it doesn't line up with the recorded track on the tape. This may result in Read Errors.

If you do get problems there are two things you can do. Firstly you can clean the tape-head and the pinch rollers that feed the tape onto it. Use a clean cloth with a dab of methylated spirits. Secondly you can adjust the position of the tape-head using a "Philips" screwdriver.

In front of the Rewind button is a small hole. When Play is pressed an adjustable screw moves into line with the hole. By turning this up to a half turn in either direction you may well succeed in bringing the tape-head more perfectly into line.

Try a series of small adjustments in one direction, and if that doesn't work try the other direction. If you do this will a program is loading, and have the volume turned up full, you can also listen to the speaker at the back of the tapedeck and judge when it is loudest and crispest.

This process is known as adjusting the "azimuth" and does not invalidate your guarantee. However, you should take care lest you move the head out of position. Make sure you know how to get it back to its original position. Also be careful not to press Stop while the screwdriver is still in position – remove it first.

Helpline Saga continues

A few months ago after you printed my name in Helpline I received a letter from an English bloke asking me if I would like to buy cheap software. Enclosed was a complete list of games with prices which made me think that the games were probably copies (eg Knight-Tyme – 50p). I have forgotten the guys name as I tore up the list. This kind of thing not only damages the software industry, but it also gets Helpline a bad reputation and could ruin a great service. If anyone else receives mail from this character they should send his name to *AA*, that would scare him off.

Roger Murphy
Glenogeary, Co Dublin

As a member of Helpline, I have, or hoped to have, helped fellow Amstrad users in many ways. I am writing this letter to defend the Helpline members, okay some are mis-using the service, but to be fair most are helping others. My personal view is if I get a letter asking to swap software it's filed under "B" for bin, so don't write to me as it is a waste of a stamp, any that contain S.A.E are used for people who forgot to include one. On average I get two letters a week asking to swap software. I enclose 2 of them to show how bad things are getting.

Letter no.1, from somebody in Singapore says "No much software over here" (every body say "ah"!) "I've only got over 370 disk based, never mind the tapes" I worked out that's about £5,180 NEVER MIND the tapes. Letter no.2, from Co. Down. 192 disk based 63 tape based cost about £3,255. Grand total £8,435, and that's only 2 letters.

So the moral is – if you are thinking of swapping software, don't. It will only hurt you in the long run and will mean higher prices for programs. Think, a Mastertronic game is now £1.99, after ten years of this it could be £16 or £17 pounds. So don't just blame the Helpline members. Thanks for listening.

Edward Reid
Drumchaple

It's nice to see Helpliners taking such a responsible attitude. Far from blaming them for anything I think they do a wonderful job for fellow users. The threat is from outsiders wanting to misuse the service. If caught I think the punishment should fit the crime – let's chop their interfaces off!

PS No I won't print "Will Chris Bowan of Wales, from Camp Beaumont '86 please make contact". While we're on the subject, it's also strictly against editorial policy to print "Happy birthday, Thomas Higgins". Ever get the feeling you've been conned?



"TAKES ALL THE FUN OUT OF IT SOMEHOW..."

Mixing modulators

I have a CPC 464 with speech (ssa1) and Trojan light pen. I would like to get a 6128. But I am not allowed to sell my 464 because my sister wants it. Would it be possible for me to buy a 6128 with a modulator then give the modulator to my sister with the 464 keyboard so she can use it on her black and white portable TV, and I can use the 464 monitor with 6128 keyboard. If so how much is a 6128 with modulator or 6128 keyboard on its own.

Wayne Lewis
Sutton Coldfield

Unfortunately you can't. The modulators and monitors are built specifically for the two machines. The 464 monitors, both colour and green screen, have no power supply for the 6128's built-in disk drive.

Helpline

Where eager Amstrad experts volunteer aid to fellow readers having problems

If you too feel helpful, just send us your name, address, phone number (say so if you don't want it to be printed) and subject on which you want to help. Please write on a postcard or the back of a stuck-down envelope to simplify administration here in the office. Send to: **Helpline, Amstrad Action, 4 Queen Street, Bath, BA1 1EJ.** If you are asking for help, make direct contact with the appropriate Helpliner - don't pester your usually-patient (but pressed) editor. By post, you must include a self-addressed, stamped envelope for the reply - otherwise you won't get one. And if you telephone, stick to socially acceptable hours!

Reminders: Anyone invloved in piracy is not welcome on this page and if problems arise they will be removed. Keep it legal, it's in everyones interest. A plea to helpliners – if you do receive SAE's from people, please return them with some acknowledgement. Lastly a reminder that if you want to come off the Helpline you should write and say so.

Elite, Yie Ar Kung Fu, Commando, E.Freddy, Space Harrier, Football Manager.
M.Levy, "Brecon", Woodside Lane, Finchley, London, NI2 8RG. tel (01) 445 0220 (weekends (01) 209 1006)

I am able to give full help with RSX's (bar commands). Send £1 and a large SAE for the photocopied sheets. Also able to give some help on Basic.
Shabaz Yousaf, 137 The Crescent, Slough Berkshire, SL1 2LF

I am offering tips on: Pinball Wizard, Killer Gorilla, Defend or Die, Chronos, Spindizzy, 5-a-Side Soccer, 180, Dr Destructo, Gauntlet, Head over Heels, World Series Baseball, Paperboy, Renegade, Green Beret, Yie-ar-kung-fu, Leaderboard, Mission Genocide, Football Manager.
Simon Baker, 23 Biddenden Way, Istead Rise, Gravesend, Kent, DA13 9DE ☎ 0474 833246

Gauntlet, Aliens, Hacker 1, Green Beret, Short Circuit, Lightforce, Knight-tyme, Zub, Xcel, Bomb Jack 1, Apprentice, Thrust, Saboteur, 3D Boxing (Amsoft), Kane, Oh Mummy. Good at programs that give lists of things, eg telephone numbers, games, stocks. - 464
Abdul ("Billy") Qureshi, 16 Truggers, Handcross, Haywards Heath, W Sussex, RH17 6DQ ☎ (0444) 40 0548

Soul of a Robot, Zub, Rebelstar, Kobyashi Naru, Spellbound, Knight Tyme, Get Dexter, The Last V8, Thing on a Spring, Batman, Starquake, Cauldron, Cauldron 2, Dummy Run, Bounder, Gunfright, Chronos, Antiriad, Curse of Sherwood, Amaurote, Feud, Robin Hood, Dizzy, Sorcery, Head over Heals, Thrust and Spindizzy.
Graeme and David MacDonald, 13 Shillinghill, Alness, Ross-shire, Scotland, IV17 OSY

Amaurote, Kane, Hyperbowl, Turbo Esprit, Speed King, Starstrike II, Yie-ar Kung Fu, Thrust 1, Tomahawk, Druid, Batman, Knight Tyme, Thanatos, Harvey Headbanger, Paperboy, Gauntlet, Arkanoid, Lightforce, Trailblazer, F1 simulator, Way of the Exploding Fist
Jason Burns, 212 Victoria Rd, Higher St Budeaux, Plymouth, PL5 2DH

Basic, machine-code, hardware, programming roms. Peripherals available for use: printers, video digitizers, rom blowers, Multifaces
Mark Spencer, SIG Enterprises, room 2, 101 Oxspring Bank, Sheffield, S5 8NR ☎ (0742) 31 4053

Protext, Prospell, Utopia, roms, Basic, DMP 2000 printer; can supply screendumps of games or programs
Andrew Perry, 5 Uplowman Road, Tiverton, Devon, EX16 4LU ☎ (0884) 25 3414

Mini Office 2, Melbourne Draw, Music System, tape-to-tape, DMP 2000, Grand Prix Simulator, Chronos, Starglider, Yie-ar Kung Fu, Colony, Destructo, Radzone, Kane, Dynamite Dan, Rocky Horror Show - and many other games, software companies' addresses and general help on the 464
Helen Saunders, 14 Elm Ave, Beeston, Nottingham, NG90 1BU

any problems or tips (founded German Computer Service two years ago) including CPM, transferring programs from other computers, hacking, making programs compatible over all CPCs, pokes, Basic errors and problems, Hacker 1, Cauldron 1 and 2, Theatre Europe, Bruce Lee, Thanatos
Kai Herthneck, Ostracherstr. 4, 7000 Stuttgart 80, W Germany ☎ (+711) 72 3357

Message from Andromeda, Terra Cognita, Thrust, Mr Freeze, Spellbound
Darren Jackson, 85 Fitzherbert St, Warrington, Cheshire, WA2 7PN

Feud, Jack the Nipper, Knight Tyme, Message from Andromeda, Revolution, Street Hawk, Saboteur, Starstrike II, Thrust II, 180
Paul Selvidge, 15 Whitcombe Close, Lordswood, Chatham, Kent, ME5 8RL ☎ (0634) 62978 except Sundays

Batman, Druid (use map locations from AA maps), Head over Heels, Batman, Druid, Ralli II, Green Beret, DT's Decathlon, Lightforce, Yie-ar Kung Fu, Who Dares Wins II, Bruce Lee, Ghosts'n'Goblins, Chuckie Egg, Chronos, Moon Cresta, Mindshadow
Darren Roofe, Cathryn Wheel House, 43 High Street, Manea, Cambs, PE15 0JD

Get Dexter, Robin Hood, Trailblazer, Fighting Warrior, Druid, Knight Lore, Thrust, Avenger, Bruce Lee, Match Point, Starglider, Green Beret, Sorcery, Revolution, Thing on a Spring, Starstrike II, Xeno, Pingpong, The Apprentice, Finders Keepers, Pipeline II, Shockway Rider, Locomotion, Zub, Knight Tyme, Radzone, Everyone's a Wally
John Lawless jnr, 75 Leix Rd, Cabra, Dublin 7

Amaurote, Feud, Sorcery, Knight Tyme, Spellbound, Gauntlet, Space Harrier, Ikari Warriors, Bombjack 1, all Elite games, Batman, Frankie, Gillan's Gold, most Ocean games, Gunfright, Alien 8, Thrust 1, Flyspy, Molecule Man, Caves of Doom, Spindizzy. Adventures: Hobbit, Jewels of Babylon, Worm in Paradise. Has typed in all the type-ins.
Frankie, 103 Strathaven Road, Lesmahagow, Lanarkshire, ML11 0DN

Soccer Boss, Starquake, Thrust, Rebelstar, Ikari Warrior, Hyperbowl, Football Manager, Feud, Harrier Attack, Kane, Radzone, Ghouls, Bruce Lee, Manic Miner, Star Commando, Bump Set Spike, World Series Baseball, Raid, Don't Panic, Grand Prix Simulator, Hunter Killer, Fighter Pilot
Craig Thomson ☎ Motherwell, Scotland (0698) 51177

Machine code programmin, Basic programming, parallaxing udg's (text), multi-coloured text (mode 1 and 0), send SAE and disk for demo progs and programming help, almost all games.
Mathew Middlecott, 168 Fernhill, Harlow, Essex, CM18 7LF. tel (0279) 33269

Solving bugs in Basic and most machine code programs. Enclose listing + description of program + description of problem) If possible enclose cassette with program on 464 only. If machine code enclose assembler listing.
Paul Jones, 78 Fitzwilliam Street, Swinton, Rotherham, S.Yorkshire, S64 8RW

Converting programs for the Vortex disk drive. Simple machine code. Hacking. CP/M programs & utilities. A whole bunch of public domain programs.
Mark de Bont, de Foes 15, 5581 AP, Waalre, Holland, tel (04904) 13963

Radzone, Ghosts and Goblins, Knight Tyme, Dragons Lair, Green Beret, Gauntlet, Feud, Starquake (codes), Bounder, Boggit.
David Brooke, 8 Birkby Grove, Bilton Grange, Hull, HU9 4PZ

Knight Tyme, Spellbound, machine code, Basic, Word Perfect, Melbourne Draw, GAC, pokes, maps, hacking, DMP 2000 problems, games development using GAC, word-processing, graphics (screen dumps), all CPC games. Can also print program listings for a 40p postal order. How to do pokes and problems using modems. (I have a Voyager 7)
Guy Sicka, 78 Chesterfield Road, High Barnet, Herts, EN5 2RF. tel (01) 441 5612

Basic programming, some machine code.
Paul Bower, Elm Gable, Hermitage, Newbury, Berks. RG16 9SA. tel (0635) 20089

Tasword 6128/Tas-spell 464 & 6128, Tasprint, Tascopy, Basic programming, Masterfile III, Locksmith+, Masterdisc, Epson LX printers, CPM and help on then game Elite.
Oystein Kjaereng, Torvymrv.42, 3170 Sem, Norway

Feud, BMX Simulator, Equinox, Who Dares Winds 2, Frank Brune's Boxing, Shogun, Green Beret
Inigo Dunkley, 62 Rainbow Drive, Melling, Liverpool, L31 1BZ, Merseyside. tel (051) 547 2714

Basic, machine code, Laser Genius, tape loading, disk loading, firmware, graphics, sound, hints, pokes, mapping, Word Perfect, Sorcery+, Transmat, Oddjob, Warlord, Kung Fu Master, Bruce Lee, Bounder, Gunfright, Pip, will print listings for 20p
Steven Lawson, Plot 77, Meir Park, Staffordshire, ST1 6HQ.

Basic programming, machine code programming, firmware calls, Amsdos calls + accessing them, adding second drives (3in + 5.25in), tape loading problems, multiface two, printer problems.
Kevin Bryant, Jessamine Cottage, Chapel Lane, Ashford Hill, Newbury, Berks, RG15 8BE. tel Tadley 71792

GAC adventure writing and problems. Also conversions to other formats undertaken for published GAC authors by fellow established author.
C.Sharp, 4 Osprey Gdns, Sheffield, S2 5GE, S.Yorks

Bombjack, Green Beret, Doomdarks Revenge, Lords of Midnight, Thrust, Barbarian, Kung Fu Master, Elite, Hunchback, Feud, Everyone's a Wally, Who Dares Wins 2, Grand Prix Simulator, Kane, Hyperbowl, Ikari Warriers, Fist, Yie Ar Kung Fu, Bruce Lee, Jack the Nipper, Fourth Protocol (part one only), Knight Tyme, Ghsot n' Goblins.
Paul Crich, 33 Hills Road, Strathaven, Lanarkshire, ML10 6LQ. tel (0357) 29606

Gauntlet, Knight Tyme, Green Beret, Spell Bound, Bombjack, Stormbringer, Bombjack II, Kane, Amaurote, Zub, Grand Prix Simulator, Starquake, Harrier Attack, Bruce Lee, Pipeline 2, Harvey Headbanger, Back to Reality, Equinox, Knight Lore, Bounder, Ping Pong, Space Harrier, Exolon, Mag Max, Ball Crazy, Desert Fox, Boulder Dash.
David Howlett, 53 St Marys Avenue, Alverstoke, Gosport, Hants, PO12 2HU

An extremely large number of games which is too long to list here so telephone him to find out.
Craig Thomson. tel (0698) 51177

Raid, 180, Star Raiders II, Beach Head II, Death Wake, Sir Lancelot, Footballer of the Year, Nonteraqueous
Michael Dickinson, 281 Tyldesley Road, Atherton, M29 9AL



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Mapwork Quiz	9.95	8.96	14.95	13.46
Maths Mania	9.95	8.96	14.95	13.46
Maxi Maths	9.95	8.96	14.95	13.46
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AMSCENE

Monthly update on what's new on the CPC scene

Micro movies

Software giants Mirrorsoft, with titles like *Strike Force Harrier* and *Spit fire 40* under their wing, have landed themselves the distribution rights to the next six titles in the Cinemaware interactive software range.

Mirrorsoft have already been exclusive UK distributors for Cinemaware's first four products – *Defender of the Crown, SDI, King of Chicago* and *Sin bad and the Throne of the Falcon*. None of these titles have yet appeared on the Amstrad, however, *Defender of the Crown* (which has clocked up huge sales on other formats) is currently being developed for the CPC by Ubisoft in France.

Defender of the Crown is a medieval strategy game in which the personality of any of four characters may be controlled. The objective is to reunite England by capturing all the territories of the other characters. The game has been received with such enthusiasm on other computers because of the staggering number of beautifully designed locations.

Ubisoft in France told us they were hopeful that the product would be ready for scrutiny by Mirrorsoft in early March. So far Ubisoft haven't encountered any programming hitches, but due to the programs huge size it is likely to appear on two disks.

Pat Bitton, marketing director at Mirrorsoft, was unable to give a firm release date for *Defender of the Crown* on the Amstrad. However, Pat stated that a price of around £15 will be set. And, due to the massive playing area and number of screens, a cassette version is unlikely.

"We shall wait and see how *Defender of the Crown* is received before deciding whether to release other Cinemaware products on the Amstrad", enthused Pat. The same applies to the first two (of the promised six) new Cinemaware offerings: *Three Stooges* and *Rocket Ranger*. More from Mirrorsoft on 01 3774644.



Advance into the Future

Digital Integration have turned their attention to flights of future fancy with their latest simulation called *ATF* (Advanced Tactical Fighter). DI have an exceptionally good record for producing accurate simulations that are fascinating to play, like *Bobsleigh, Tomahawk* and *Fighter Pilot*. As far as we know the aircraft the game is based on doesn't actually exist (the Pentagon may know different) so DI are really getting ahead of the crowd. The craft is packed with high-tech weaponry and devices and flies over a 3D relief landscape. Should be one to watch for when it comes out at £8.95 on cassette and £13.95 on disk.

Taking the Mickey



Gremlin Graphics have signed a deal to bring the world's most famous mouse, Walt Disney's Mickey Mouse, to the computer screen. The Mickey Mouse Project, *as it's called at the* moment, is still at the early stages of development, so details of the game are still sketchy.

At present the story line is that Disney Castle has been invaded by four evil witches who serve the Ogre King. They've stolen Merlin's wand and cast a spell so that the Ogre King can reign supreme. The wand was then broken into four pieces and each witch was given the task of guarding the piece in a tower around Disney Castle. Mickey has been chosen to recover the wand and defeat the Ogre King.

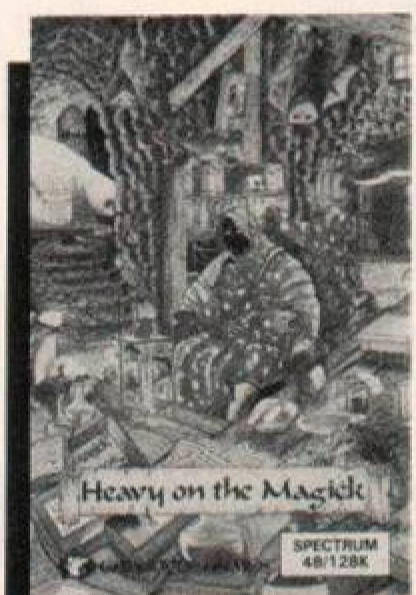
That sort of scenario sounds like it will produce an arcade adventure with some zapping elements thrown in, but we'll have to wait a while for more details.

Budget Gargoyles

The much acclaimed arcade adventures by Gargoyle Games are to be re-released as budget titles. Gargoyle gained their exceptional reputation for games from a handful of titles like *Dun Darach, Marsport, Tir Na Nog* and *Heavy on the Magick*. All these games, along with Sweevo's World will be appearing on the Rack-It label at £2.99. There's also the possibility of a disk compilation of three of the titles but at the moment Hewson, publishers of Rack-It, are undecided on that.

Cuchulainn is the star of both *Tir Na Nog* and *Dun Darach*. He's a large beautifully animated figure wandering around a Celtic landscape using the objects that he finds so that he can complete his quest. *Marsport* was the first game in the Siege of Earth Trilogy, unfortunately the other two games never materialised. The setting was futuristic this time, but the style of play was very similar to that found in Cuchulainn's adventures.

Sweevo's World was a game similar in style to *Knight Lore* only there was more humour in it. *Heavy on the Magick* was an animated graphical adventure. You control Axil the Able in his attempts to escape from the dungeons beneath Collodon's Pile. This is the first time that *Tir Na Nog* has been available in the high street shops, before it was only available from *AA* via the mail order department. All of the games will be re-released during February and March at £2.99.



Self-assurance for '88

London based Iansyst – renown for their Iankey typing tutor – have announced *PEP* – Personal Excellence Package. *PEP* is badged as a self-assessment and improvement package. Basically, it will tell you everything you wanted to know about yourself. Like what is your intelligence quotient? What is the best time of the day for you? What do other people think of you?

PEP provides 16 challenges to test and stimulate your brain. Although it is meant primarily as a self-assessment package, Iansyst say that the program is of a high enough standard that it can be used for personnel selection.

Only 6128 owners can reveal the truth about themselves as *PEP* runs under the CPM plus operating system. *PEP* is available on disk at £24.95. Direct from Iansyst it costs £24.95 plus £2.30 postage and packing. More from Iansyst at Omnibus Building, 41 North Road, London, N7 9DP, telephone 01 607 5844.



CPM plus from CPC

Owners of upgraded 464s and 664s can obtain a copy of the CPM plus operating system from CPC Ltd of Preston, Lancashire. For a long while it has been the subject of confusion as to where users might legally obtain a copy of the operating system. As CPC Ltd are the only company in the United Kingdom licenced to sell and distribute Amstrad computer spare parts, there is no problem in this department.

This is excellent news for anyone upgrading their 464 to a 6128 as described in this issue. Now you can obtain CPM plus to go along with it without resorting to underhand methods. CPM plus retails for £20.04 on disk. CPC Ltd can be contacted on 0772 555034.

New mouse

Manchester based Siren Software have released a mouse and interface with bundled software. The mouse and interface are available with *Cherry Paint* (a Mode 2 art package) for £49.99 or with *Micro Design* – a desktop publishing program reviewed in issue 28 – for £64.99. Siren are on 061 2281831.

Four not six

The *Cricket Program* designed for compiling cricket statistics, mentioned in the December issue, has been knocked down to £12.95. 14 Heol-Waun-y-Nant, Whitchurch, Cardiff, CF4 1JZ is the place to get the product; Russell Barton is the man to speak to.

Book keeping

To complement their *Small Traders Pack*, SD Microsystems have released the *General Ledger* package. The *Small Trader's Pack* was aimed at providing accounting, stock control and mailing list facilities for a small business. The *Ledger* is designed to handle income and expense accounts. Both cash and bank transactions are catered for. Reports can be produced to include profit and loss statements.

Steve Denson at SD told us, "The system has been specially tailored for the non-accountant and non-computer expert". Features include automatic double-entry, auto-date sort, up to 40 headings and a maximum of 250 transactions.

The *General Ledger* is available now at £19.95 on disk only. It is compatible with all disk-based CPC computers. SD microsystems are on 0462 675106.

Trader's latest

The *Small Trader's Pack* (reviewed issue 26) has been updated to include part payment and stock discounts. The package also boasts better use of memory and an improved menu system. SD say that files from the old version are compatible with the new.

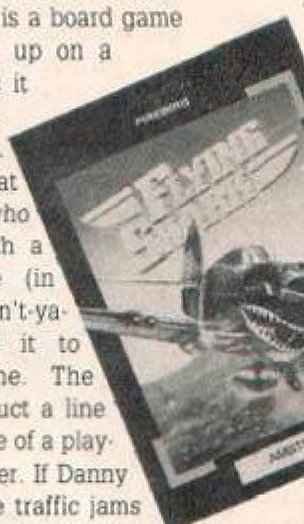
Upgrades can be obtained by sending the earlier version along with £5 to SD Microsystems, PO Box 24, Hitchin, Herts. If buying the Trader's pack for the first time, the price is £24.95.

NEW RELEASES

Activision

The US owned software giants have no less than six new games on the way: *Championship Sprint*, *Predator*,
ber, *Gee Bee Air Rally* and *Karnov*.

The rather inappropriately named *September* is a board game that was thought up on a Greyhound bus as it zig-zagged its way around the US of A. The concept is that of Danny Kishon, who found himself with a lot of free time (in between jobs don't-ya-know) and used it to develop the game. The object is to construct a line connecting one side of a playing area to the other. If Danny gets stuck in some traffic jams there's no telling what he'll come up with next.



Predator is based on the Arnold Schwarzenegger movie of the same name. In both the movie and the game he's up against not just human opponents but the lethal alien predator. It's a horizontally scrolling shoot-em-up in the mould of games like *Green Beret*, with a 3D element thrown in and loads of screens to battle your way through.

Championship Sprint is the follow up to *Super Sprint*. There's a difference this time, because you can design your own tracks and then race around your own creations. That addition could well extend the life of an otherwise quite simple arcade game.

The Corporation is a strategy/action game set in the year 3026AD. You play the part of the commander of a deep-space robotic mining team, out to get a rare Minorthian Crystal from an asteroid. You have a competitor who also wants the Crystal. Time is short because the asteroid is on a path that will lead to destruction.

Gee Bee Air Rally is a racing game in which take the controls of a Gee Bee, a 1930's plane that was very fast, dangerous and guaranteed to thrill. There are 16 courses of varying difficulty for you race around.

Finally there's *Karnov* on the Electric Dreams label. It's a coin-op conversion and you play a fire breathing Russian who's searching for the lost treasure of Babylon (entry number 1,973 in the plausible plots file). There are nine levels filled with strange monsters for you to avoid.

All of the games cost £9.99 on tape and £14.99 on disk. *Championship Sprint* and *Predator* are out now, the others will be available soon.

Gremlin

Blood Valley is a new Gremlin game based on the fantasy books of the same name by Mark Smith and Jamie Thompson. The books are in the Duel Master series where two players take part in a role playing adventure. They're the book equivalent of our own computer adventures, but the game is going to be more concerned with the arcade side. The computer game is nearing completion so blood should be flowing down your valley shortly.

Gremlin are also bringing out a third *Mask* game. It's called *Venom Strikes Back*. This time Matt Tracker's son has been kidnapped by the forces of Venom and is being held to ransom. It costs £9.99 on tape and £14.99 on disk.

Druid Strikes Back

Firebird are about to hit the market with the sequel to *Druid* and the conversion of the *Flying Shark* coin-op. The Druid sequel is called *Enlightenment*, in which you again control Hasrinaxx the druid. You're attempting to rid the land of Belorn of Acamantor. You're accompanied by an old friend, the Golem, and also some new chums – Wisp, Phoenix and Kraken, representing the other three elements of air, fire and water. It's out now and costs £8.95 on cassette and £14.95 on disk.

The arcade conversion of *Flying Shark*, licensed from Taito, is flapping its fins about in the shops now. It puts you at the controls of a small fighter aircraft in a vertically scrolling shoot-em-up. Costs £8.95 on tape and £14.95 on disk.

Firebird budget also has a couple of new titles out: *Warhawk* and *War Cars*. *Warhawk* is a shoot-

em-up set in an asteroid belt with hordes of aliens waiting to be slaughtered. *War Cars* is a racing game in which you have to find flags around a large network of roads. Also included is a course designer that lets you design your own tracks. Both are available now, *Warhawk* costs £1.99 and *War Cars* is £2.99.

Outlaw Trolls

Outlaw Productions are to release *Troll*, their first game on the Amstrad. Bet you can't guess from the title who you play in the game. You're trapped in the nether world of Narc with lots of goblins to fight off. An unusual feature is that if things get too hectic on the floor you can somersault onto the ceiling and carry on fighting upside down. We look for to taking a sideways look at it when it's finished.

Lazers tag Chaplin

US Gold have three very different licences appearing soon based on Charlie Chaplin, Lazer Tag toy guns and the coin-op *Shackled*. In the role of Charlie *Chaplin* the silent movie star you get to make your own silent movie. Can you capture the humour, slapstick, emotion and heartache of a Chaplin classic? Can US Gold?

The computer game of the popular toy, *Lazer Tag*, is also nearing completion. The toy allows you to play cowboys and indians (that's what it was when I was a kid anyway) with body targets that completely destroy those delightful game arguments – "You're dead!", "No I'm not you, missed me by a mile" – it will all end in tears you know. You're a rookie cadet at the Lazer Tag Training School and your objective is to reach the rank duelist.

Shackled is a coin-op conversion in which you search through a prison to find your comrades. There are 112 levels to fight your way through, a second player can join you to give a better chance of success.

All three games cost £9.99 on tape and £14.99 on disk.

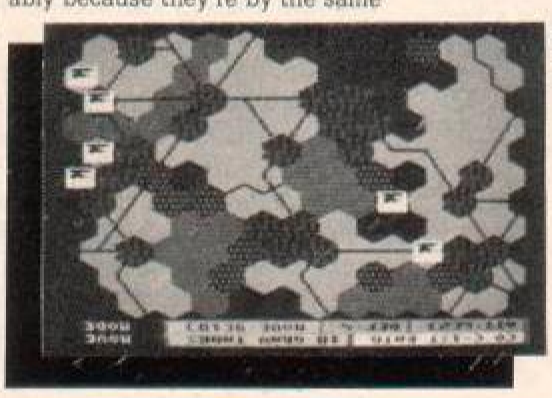
Spreadsheet mix-up

In issue 29 we published an article on spreadsheets, Spread a Little Happiness. Unfortunately things turned out disastrously wrong: all the GOOD NEWS/BAD NEWS boxes are in the wrong place and the address for Audiogenic Software (publishers of *Matrix*) is incorrect. The first GOOD NEWS box (at the top of page 30) belongs to the *Cracker* review; the second GOOD NEWS box belongs to *First Calc*; the third box to MasterCalc 128 and so on. Each box has been shifted one review up.

Audiogenic's new address is Winchester House, Canning Road, Wealdstone, Harrow, Middlesex, HA3 7SJ. Telephone 01 8611166. We stated that *Matrix* was a disk-only product. This is not so. *Matrix* is now available on cassette at £29.95. Those responsible for the mess-ups have been forced to play Roland on the Run till they begged for mercy.

D.I.Y. Wargames

PSS have released *Firezone*, a 21st century wargame, in their Wargamers Series. It plays and looks very similar to *Battlefield Germany* and *Sorcerer Lord*, probably because they're by the same author! Not only do you get the game, but there's a bonus for all you budding wargame designers – a design program that lets you create your own scenarios. It costs £12.99 on tape and £17.99 on disk.



Battle commences in *Firezone*

US Gold Comp winners

The answers to our Christmas competition for *Gauntlet II* and *720°* are:
1) a Ghost
2) Merlin
3) a Grunt

The winner who will be receiving a US Gold sweatshirt and a copy of both games is **Frances Stockdill** from Darnick. The 24 runners-up will be receiving both games and they are: **Peter Drew**, Worthing; **Unreadable**, Tongham; **Dylan Reuter**, Belgium; **Simon Smith**, Newton; **Gregory Nicholas**, Hardwicke; **Sigurjon Ingolfssn**, Iceland; **Stephen Fairweather**, Sunderland; **Ian Baker**, Bradford; **Edward Turner**, Grappenhall; **Daniel Johnson**, Camberley; **Philip Scanlon**, Chorley; **David MacDonald**, Alness; **Richard Harrad**, Stockport; **R. Larden**, Bromley; **Andrew Harvey**, Cheltenham; **Mark Whitehead**, Retford; **Malcolm McCaig**, Kirkcudbright; **Andrew Kerr**, Droitwich; **Stuart Wood**, Wadesmill; **Guy Verbist**, Malvern Wells; **S. Lucas**, Huyton; **Kevin Wallbank**, Charnock Richard; **A. Stevenson**, Lickey End.

Beau Jolly Bonanza Winner

The winner of the Christmas competition for the Beau Jolly compilations is **Martin Hinsley** from South Littleton. He'll be receiving everyone of Beau Jolly's compilations to date. The three screenshots are correctly identified as *Spindizzy*, *Antiriad* and *Tau Ceti*.

Twenty five runners-up will be receiving *Five Star Games 3*. They are: **Mark Chappell**, Bristol; **A. Watson**, Inverness; **Paul Bentley**, Tettenhall; **M. Pemberton**, Sutton; **David Lim**, London; **Mark Watson**, Dewsbury; **Jonathon Blench**, Normanby; **V. Bashforth**, Dronsfield; **Andrew Smith**, Mildenhall; **Stewart Lewis**, Newcastle; **M.K. Hessin**, London; **Kevin Leatherbarrow**, Manchester; **Andrew Godliman**, Norwich; **B. Morgan**, Harley; **Steve Harvey**, Bocking; **L.B. Huggins**, Reading; **Gareth Howlett**, Peterborough; **Martin Chapman**, Penryn; **Alexis Tudor-Hart**, London; **Alex Johnson**, Chertsey; **Russell Howell**, Bracknell; **Darren Lee**, Stafford; **John Pitt**, Shirly; **Stephen Flinter**, Attey; **Ranjit Singn**, Huddersfield.

The twenty five runners-up that will be receiving *Computer Hits 10:4 are:* **Mark Oldham**, Banbury; **Adam Seamen**, Lower Weare; **Michael Bird**, West Bromich; **Kevin Patton**, Highfield; **Winston Reynolds**, Birmingham; **Unreadable**, East Keswick; **Ivor Betty**, Cardiff; **J. Graham**, Rushton; **S. Longly**, Tonbridge; **S. Danks**, Walsall; **Martin Watkins**, Hardwicke; **Joe Lyrell**, Hackney; **Lee James**, Lymm; **Joe Kernis**, Loughrea; **A.J. Carson**, Glasgow; **Y. Smeets**, Holland; **Unreadable**, Brixham; **Mark Baldock**, Tonbridge; **Geoff Balding**, Bury St Edmunds; **Ken Mitsumizo**, Camberley; **Andrew Nation**, Bridgwater; **David Chapman**, Kiltarlity; **D.G. Philips**, Fulham; **Iain Anderson**, Clifton; **Martin Gillibrand**, Weymouth.

All the prize winners have been passed on to the software houses who should be getting the prizes to you, even as you read this.



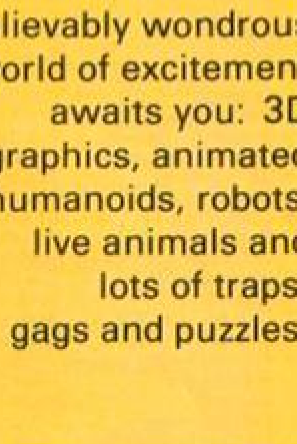
AVAILABLE FOR ATARI ST, AMSTRAD,
(AMSTRAD VERSION INCLUDES 'GET DEXTER 1')

He's back.....
GET DEXTER 2



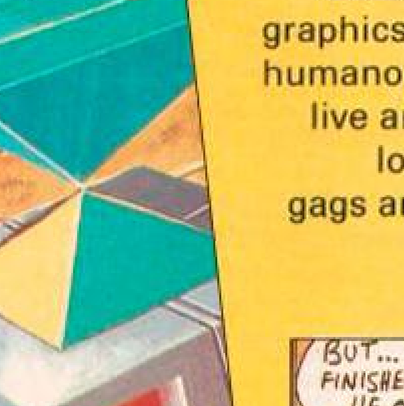
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Amstrad CPC Games

Title	Publisher	cass	disc
500cc Grand Prix	Activision	7.89	11.84
6 Pack	Elite	7.86	11.81
6 Pack Vol. 2	Elite	7.86	11.81
Academy	C R L	7.86	11.81
Ace of Aces	U S Gold	7.89	11.84
Acrojet	Microprose	7.86	11.81
Advanced Art Studio	Rainbird		19.71
Aliens (Electric)	Electric Dreams	7.89	11.84
Aliens (U S Versn)	Activision	7.89	11.84
Annals of Rome	P S S	10.23	14.16
Arkanoid	Imagine	7.07	11.81
Armageddon Man	Martech	10.23	
Army Moves	Imagine	7.07	11.81
Asphalt	Elite	7.86	11.81
Auf Wiedsen Monty	Gremlin	7.89	11.84
Ballyhoo	Infocom		11.84
Barbarian	P V G	7.89	10.23
Baseball Game Star	Activision	7.89	11.81
Battle For Midway	P S S		7.86
Battle of Britain	P S S		7.86
Battlefield Germany	P S S	10.23	14.18
Big 4 Compilation	Durell	7.86	9.44
Big 4 Vol. 2	Durell	7.86	11.81
Black Magic	U S Gold	7.89	11.84
Blue War	Go!		11.84
Bombjack 2	Elite	7.07	11.81
Brian Clough F/ball	C D S	11.81	14.16
Bride Frankenstein	Ariolasoft	7.10	11.84
Bulls-Eye	Domark	6.28	
C50	Cascade	7.86	
California Games	U S Gold	7.89	11.84
Captain America	Go!	7.89	11.84
Catch 23	Martech	7.07	11.02
Centurions	Ariolasoft	7.89	11.84
Championship F/ball	Activision	7.89	11.84
Champs Water Ski	Infogames	7.86	11.81
Cholo	Firebird	11.81	15.76
Cluedo	Leisure Genius	7.86	11.81
Coin Op Classics	U S Gold	7.89	
Colossus Bridge	C D S	9.44	11.81
Colossus Chess 4	C D S	7.86	11.02
Computer Hits 2	Beau-Jolly	7.86	11.81
Computer Hits 3	Beau-Jolly	7.86	11.81
Computer Hits 4	Beau-Jolly	7.86	11.81
Computer Hits 5	Beau-Jolly	5.49	9.44
Computer Hits 6	Beau-Jolly		11.81
Computer Hits 10	Beau-Jolly	7.86	
Conflicts	P S S	10.23	14.18
Convoy Raider	Gremlin	7.89	11.84
Countdown	Domark	6.28	
De Luxe Scrabble	Leisure Genius		12.60
Deadline	Infocom		19.74
Death Wish 3	Gremlin	7.89	11.84
Deeper Dungeons	U S Gold		5.52
Despotik Design	Infogrames	7.89	11.84
Donkey Kong	Ocean	7.07	11.81
Dragon's Lair	Soft Projects	7.07	
Dragon's Lair (1 + 2)	Soft Projects	7.07	
Dragon's Lair 2	Soft Projects	7.07	11.81
Druid	Firebird	6.28	
Edge Classix 1	The Edge	5.52	11.84
Elite	Firebird	7.86	10.23
Enduro Racer	Activision	7.89	11.84
Enterprise	Melbourne	7.07	
Epyx on Amstrad	U S Gold	7.89	15.79
Evening Star	Hewson	7.07	11.81
Exolon	Hewson	7.07	11.81
Express Raider	U S Gold	7.89	11.84
F A Cup Football 87	Virgin	6.28	
F15 Strike Eagle	Microprose	7.86	11.81
Final Matrix	Gremlin	7.89	11.84
Five Games	Beau-Jolly	7.86	11.81
Five Games 2	Beau-Jolly	7.86	11.81
Five Games 3	Beau-Jolly	7.86	11.81
Flunky	Piranha	7.86	11.81
Football Director	D&H Games	7.07	
Footballer of Year	Gremlin	7.86	11.81
Freddy Hardest	Ocean	7.07	11.81
G Gooch T. Cricket	Audiogenic	7.86	11.81
Game Set & Match	Ocean	10.23	14.18
Gameover	Imagine	7.07	11.81
Gauntlett	U S Gold	7.89	11.84
Ghosts & Goblins	Elite	7.07	
Go-Bots	Ariolasoft	7.10	11.84
Great Escape	Ocean	7.07	11.81
Guadacanal	Activision	7.89	11.84
Guild of Thieves	Rainbird		15.76
Harvey Head/Willow	Firebird		5.52
Head over Heels	Ocean	7.07	11.81
Hi-Frontier	Activision	7.89	11.84
Hit Pack	Elite	7.86	11.81
Hitchhikers Guide	Infocom		19.74
Hollywood Hi	Infocom		19.74
How to be a Bastard	Virgin	7.07	
Hybrid	Starlight	7.89	11.84
Ikari Warriors	Elite	7.07	11.81
Indianna Jones	U S Gold	7.86	11.84
Indoor Sports	Advance	7.86	11.81
Infidel	Infocom		19.74
Infiltrator	U S Gold	7.86	11.81
Interntnl Karate	Prism Leisure		5.52
Into Eagles Nest	Interceptor	7.07	10.23
Jack the Nipper 2	Gremlin	7.89	11.84
Jackal	Nemsis	7.07	11.81
Jailbreak (Konami)	Konami	7.07	11.81
Jewels Darkness	Rainbird	11.81	15.76
Kids Play	Power House	7.89	
Killed Until Dead	U S Gold	7.89	11.84
Konami Coin-Ops	Imagine	7.86	11.81
Krak Out	Gremlin		11.84
Leaderboard	U S Gold	7.86	11.81
Leaderboard add on	U S Gold	3.94	7.89
Leather Goddess	Infocom		19.74
Leviathan	English	7.07	
Lightforce	Gargoyle	7.07	
Little Comp People	Activision		11.84
Living Daylights	Domark	7.86	11.81
Livingstone	Alligata	7.07	11.81
Lurking Horror	Infocom		19.74
Mag Max	Imagine	7.07	11.81
Mario Bros	Ocean	7.07	11.81
Mask	Gremlin	7.89	11.84
Mercenary	Novagen	7.86	
Mercenary Comp	Novagen		15.76
Metrocross	U S Gold	7.89	11.84
Miss Gen/Bombscare	Firebird		5.52
Monopoly	Leisure Genius	7.86	11.81
Moon Cresta	Incentive		6.28
Moonmist	Infocom		19.74
Mr Weems/She Vamp.	Piranha	7.07	11.02
Murder on Atlantic	Infogrames	11.81	15.76
Mutants	Ocean	7.07	11.81
Mystery of Arkham	Melbourne	7.07	
Mystery of the Nile	Firebird	6.28	10.23
Nemesis the Warlock	Martech	7.07	10.23
Nemisis	Konami	7.07	11.81
Now Games 4	Virgin	7.86	
Paperboy	Elite	7.07	11.81
Passengers on Wind	Infogrames	10.23	11.81
Passengers Wind 2	Infograme	7.86	11.81
Pawn	Rainbird		15.76
Pegasus Bridge	P S S	10.23	14.18
Planetfall	Infocom		19.74
Power Plays	Power House		7.89
President	Prism Leisure		6.31
Prohibition	Infogrames	7.86	11.81
PSI 5 Trading	U S Gold		11.84
Quartet	Activision	7.89	11.84
Ramparts	Go!	7.89	11.84
Realm/Spaced Out	Firebird		5.52
Red L.E.D.	Starlight	7.89	11.84
Renegade	Imagine	7.07	11.81
Road Runner	U S Gold	7.89	11.84
Saboteur 2	Durell	6.28	9.44
Sailing	Activision	7.89	11.84
Sam Fox Strip Poker	Martech	7.07	
Scalextric	Leisure Genius	7.86	11.81
Scrabble	Leisure Genius	7.86	11.81
Seastalker	Infocom		19.74
Sentinel	Firebird	7.86	11.81
Shadows of Mordor	Melbourne	7.07	
Sidewalk	Infogrames	7.86	11.81
Sidney Affair	Infogrames	7.86	11.81
Silent Service	Microprose	7.86	11.81
Silicon Dreams	Rainbird	11.81	15.76
Slaine	Martech	7.89	11.84
Slap Flight	Imagine	7.07	11.81
Solid Gold	U S Gold	7.89	15.79
Solomom's Key	U S Gold	7.89	11.84
Sorcerer	Infocom		19.74
Sorcerer Lord	P S S	10.23	14.18
Space Harrier	Elite	7.07	11.81
Spellbreaker	Infocom		19.74
Spitfire 40	Mirrorsoft	7.86	11.02
Spy V Spy 3	Databyte	7.86	11.81
Star Games 1	Gremlin	7.89	11.84
Star Games 2	Gremlin	7.89	
Starcross	Infocom		19.74
Starfox	Ariolasoft	7.10	11.84
Starglider	Rainbird	11.81	15.76
Steve Davis Snooker	C D S	6.28	10.23
Strike Fce Harrier	Mirrorsoft	7.86	11.81
Summer Gold Compm.	U S Gold	7.89	
Super Cycle	U S Gold	7.89	11.84
Super Sprint	Electric Dreams	7.89	11.84
Survivors	U S Gold	7.89	11.84
Suspect	Infocom		19.74
Suspended	Infocom		19.74
Sword & Scorcery	P S S	7.86	11.81
Tai-Pan	Ocean	7.07	11.81
Theatre Europe	P S S	7.86	
They Sold a Milln	Ocean	7.86	11.81
They Sold a Milln 2	Ocean	7.86	11.81
They Sold a Milln 3	Ocean	7.86	11.81
They Stole a Milln	Ariolasoft		11.84
Thing Bounces Back	Gremlin	7.89	11.84
Throne of Fire	Melbourne	7.07	
Thrust 2/Parabula	Firebird		5.52
Thrust 2/Ninja Mstr	Firebird		5.52
Thundercats	Elite	7.86	11.81
Tobruk	P S S	7.86	11.81
Tomahawk	Digital Int	7.86	11.81
Top Gun	Ocean	7.07	11.81
Trantor	Go!	7.89	11.84
Triaxos	Ariolasoft	7.10	11.84
Trio Hit Pack	Elite	7.86	11.81
Trivial Baby Boomer	Domark	11.81	15.76
Trivial Genus Edit	Domark	11.81	15.76
Trivial Young Edit	Domark	11.81	15.76
Two on Two Bsktball	Activision	7.89	11.84
Ultima Rat/Gunstar	Firebird		5.52
Vulcan	C C S	7.86	
Warlock	The Edge	7.07	11.81
Winter Games	U S Gold	7.86	11.81
Wish Bringer	Infocom		19.74
Wizball	Imagine	7.07	11.81
Wonderboy	Activision	7.89	11.84
World Class L/board	U S Gold	7.89	11.84
World Games	U S Gold	7.89	11.84
Xor	Logotron	7.86	11.81
Yie Ar Kung Fu 2	Imagine	7.07	
Zork 2	Infocom		19.74
Zynaps	Hewson	7.07	11.81

CPC6128 utility software

Advanced Music System (+464)	Rainbird	23.66
AMX Stop Press	A.M.S	39.49
Dbase II	1st Software	78.96
Mastercalc 128	Campbell	26.07
Masterfile 3	Campbell	31.56
OCP Art Studio	Rainbird	15.76

Arnor CPC Software

	cass	disc	rom
Protext	19.95	26.95	39.95
Prospell		24.95	34.95
Promerge		24.95	
Promerge Plus			34.95
Utopia			29.95
Maxam	19.95	26.95	39.95
BCPL		39.95	39.95
Model Universe	15.95	19.95	
ROMBO Rom box			34.95

Arnor PCW/CPC 6128

Protext (v2.2)	59.95
Prowort (German Protext)	59.95
Prospell (v4.1)	29.95
Pocket Protext	39.95
German dictionary for Protext	19.95
Maxam II	49.95
C	49.95
Maxam II & C together	69.95
BCPL	39.95

Arnor PC software

Protext	59.95
Protext demo disc	5.00
Protext utilities	19.95
German dictionary for Protext	19.95

NEW Release ... Cage ROM

Amster's Cage ROM - Viewdata software £34.95

Quite simply the best Viewdata software available for Amstrad CPC computers, the Cage ROM is ideal for Prestel. Features include mailbox uploading, telesoftware downloading, full configuration facilities, autodialling, printer screen dump, frame stores, tagging, carousel viewing. Menu operation makes the Cage ROM very easy to use. Can be used to upgrade your existing comms software ROM.

All prices include VAT, post + packing. Please phone to enquire about products not listed. We can supply software for most computers at very low prices. Please make cheques payable to Arnor Ltd. or quote Access/Visa number. 24 hour sales line on 0733 239011. Arnor Ltd (AA3), Protext House, Wainman Road, Peterborough, PE2 0BU.

Please send me the following:

Qty Product Price (£)

___ ______________________ ________

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___ ______________________ ________

Total £ ________

Arnor (AA3), Protext House, Wainman Rd, Peterborough PE2 0BU

Name ______________________

Address ______________________

____

____

I enclose cheque/postal order for £ ________, or please debit my Access/Visa card,

number ______________________ exp ____/____

Who's a pretty boy then?

Will Treasure Island's updated art package get Richrd Monteiro in a flap?

Parrotry Plus

Treasure Island, £19.95, disk only



Back in March '87, issue 18, we reviewed *Parrotry* – a graphics package with a difference. Since then *Parrotry* has joined the ranks that have sprouted a *Plus*.

Parrotry Plus is unlike any other art package; it is unique in the manner in which graphics are designed and displayed.



● Three of the many stages in a picture's make-up



Parrotry remembers every brush stroke and, later, can re-draw your picture – parrot fashion. The advantage of this system is two-fold: the screen is not static (as with standard graphic screens) and amount of disk space used is considerably less. Any picture produced with *Parrotry* may be re-drawn from within your own Basic listings which is a nice touch. Of course, if you do prefer static pictures, the design may be saved as an ordinary screen.

Any graphical operation performed within *Parrotry* is remembered or stored. Co-ordinates of lines, colours they are drawn in, filled areas and such are all kept in two Basic arrays. This method of storing picture information means that the computer can perform operations quickly and easily on the data – like increasing by a factor, or copying or running through ifferent speeds.

Pieces of eight

A single line, dotted with letters, at the bottom of the screen represents *Parrotry's* main menu. Not very friendly, but then the manual is there if needed. From the drawing mode you can move a cursor anywhere on screen. Once positioned, circles, lines or points may be plotted, text printed, areas filled and colours changed. If you make a mistake there is a handy undo command. Unlike usual delete operations though, you can keep on undoing all the way to the first line you drew or area you filled.

If you wish to position text or shapes accurately then the grid comes in handy. This simply draws vertical and horizontal guide lines on the screen. The grid squares can be set to any size.

At any time during the design of a picture it is possible to re-draw everything you've done up to that point. The speed at which the picture re-draws is definable – it is even possible to single step through the display, that is, after each command the program waits for you to press a key. During playback it is possible to erase any section that doesn't look

ABC

Treasure Island, £12.95, disk only

Currently this package comes free when you purchase both *Library* and *Parrotry Plus* disks. However, this is likely to change towards the beginning of March. *ABC* is an educational-cum-demonstration program following in the wake of *Parrotry*. It is aimed at young infants and helps them associate letters with pictures.

The program is very simple in execution: an animated picture (created with *Parrotry*) is drawn corresponding to the letter hit on the keyboard. It is a shame that the name of the object is not displayed as not all the pictures will be familiar to the toddler.

Although the pictures are very nice to see once or twice, the thrill tends to thin with time; it wouldn't have been hard to add other sets of pictures. Free is fine. £12.95 is questionable.



● The house that Polly built

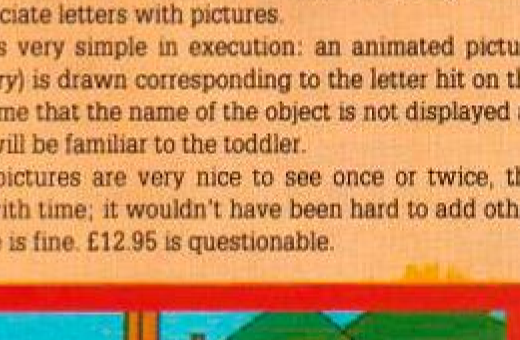
Parrotry Plus Library

Treasure Island, £9.95, disk only

The disk contains a character set and a handful of maps. These can be merged with other *Parrotry Plus* files. The intention is to save you hours of repetitive design.

Although plotters are not particularly common with home computer users – possibly because there is a lack of software support – Treasure Island have supplied a plotter dump routine with the *Library* disk. Why it is on the *Library* disk and not on the *Parrotry* disk is perplexing to say the least. The program should drive most commonly available plotters. But if you find a plotter which doesn't work correctly with the software contact Treasure Island, they say they will write a dump routine for any model.

The advantages of plotter dumps are well defined pictures, colour (if your plotter has several pens) and easily-selected dump sizes. Complicated areas filled with colour are impossible (or very difficult) to produce with plotters and, depending on the make, it may not prove feasible to print text at infinitely variable sizes.



● Plotter dump using the £150 Mannesman Tally Pixy 3



up to scratch.

Included is a loop function which enables any part of your drawing to be repeated, any number of times, anywhere on the screen. While you draw you will notice a sequence number alongside the cursor co-ordinates. This simply shows the number of commands that have been entered. To perform a loop you will need to know the first and last numbers of the sequence. You can find this out by re-drawing at slow speed. In addition to sequence numbers, the loop function needs to know how many times to repeat a sequence, new left or right cursor position and new up or down cursor position. You can't have nested loops (loops within loops), but this isn't too much of a restriction.

Land ahoy

There are a group of instructions collectively known as the data handling commands. These include:

Move – shifts a selected area of the screen in any direction.
Reverse – mirrors a selected part of the display.
Invert – turns a selected area on its head (top to bottom).
Rotate – moves an area by 90° in the chosen direction.
Change size – sections of the display may be enlarged or reduced.
Slant – slants areas of the screen (left or right) by up to 48°.
Merge – designs can be loaded from disk and merged with the screen contents.

Short change

Pay an extra £6.95 on top of the *Parrotry Plus* price and you get an additional two disks. One contains a library of designs and fonts, the other holds an educational program, *ABC*. This special price of £26.90 for all three disks lasts until the end of February. After that you can purchase *ABC* on its own for £12.95, the *Library* disk on its own for £9.95 or *Parrotry Plus* and the *Library* disk together for £27.95.

The arrays themselves may be edited if necessary. All the information required to re-draw your design is stored in two arrays: X and Y. You can inspect, change, delete or add to this data by using the editing facilities. Each sequence or command starts with a control code (or command). These are usually numbers above 9000. Anything after a control code can be a horizontal or vertical cursor position, pen colour, or text. Absolutely anything in the array can be altered or removed. It is even possible to create pictures simply by editing the array – but this isn't advisable if you wish to stay sane.

Treasure me hearties

The screens you create with *Parrotry* may be saved as either standard screens – binary files that can be loaded into other art packages – or array data. Whatever form you decided to save your designs, they may be loaded back (or re-drawn) from within your own Basic listings.

It is very odd, even ludicrous, that you can't dump a screen to either printer or plotter from *Parrotry*. Instead you must buy the *Library* disk, but even that only contains a plotter dump routine. If you wish to send a picture to the printer then you must hunt elsewhere for a routine.

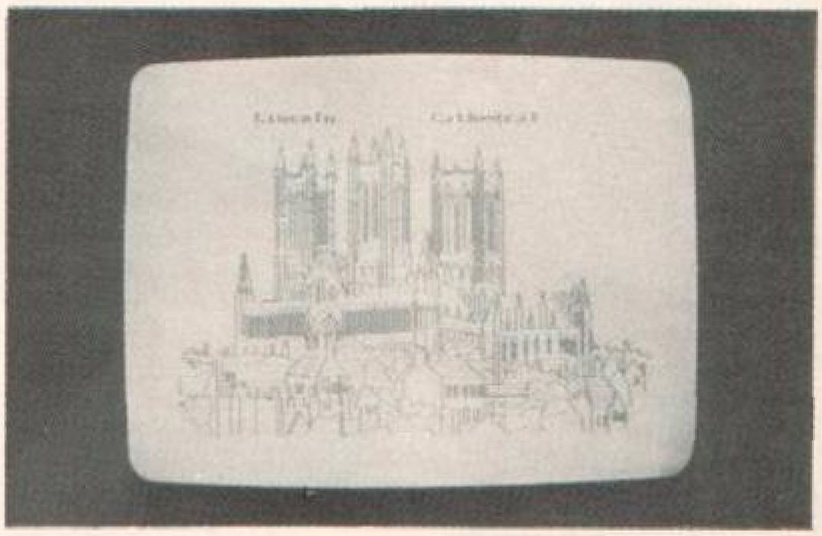
Parrotry Plus cannot compete with the *Art Studio* or *Melbourne Draw* in terms of quality and options. Indeed, it doesn't try: *Parrotry* is aimed at those wanting a live screen, animated graphics and colour switching, rather than the still pictures produced by other graphics programs.

What's new

The original *Parrotry* sold for £12.95. The *Plus* version is £7 more. What exactly do you get for the extra pennies?

- Mode 2 drawing is now acceptable.
- Circle routine improved.
- The whole screen can be used (previously the bottom line was gobbled by the menu).
- A new section – data handling – has been added. This has been explained elsewhere in the review, but put simply it allows you to modify parts of the design. For example, invert, rotate and delete areas.

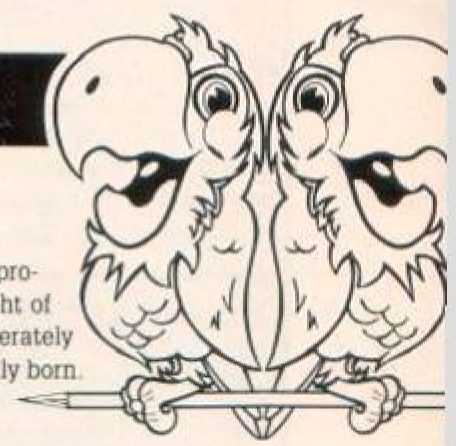
If you decide to pay an additional £6.95 the package as a whole becomes much more worthwhile: you get two extra disks. The *Library* disk has a handy plotter dump routine, not to mention a character set and other useful designs. *ABC* on its own makes it worth paying the extra.



● Detailed drawings are also possible with Parrotry

Adventure games would gain by using graphics made from *Parrotry* as the picture data takes up far less memory than conventional screen data. Shop advertising and presentation displays could easily be made with *Parrotry's* output. The potential is there for many great things. A genuinely useful package.

Treasure Island Software ☎ 0492 530229
140 Llanwrst Road, Colwyn Bay, Clwyd, LL28 5YL



What came first, the software company or the program? In this case Parrotry was first to see light of day. A fitting name for the company was desperately needed. Treasure Island Software was eventually born.

GOOD NEWS

- Different from usual graphic packages.
- Pictures may be redrawn from within your own Basic programs.
- File size of screens are far less than standard.

BAD NEWS

- Parrotry Plus – on its own – offers little more than the original.
- No screen dump routine provided with the program.

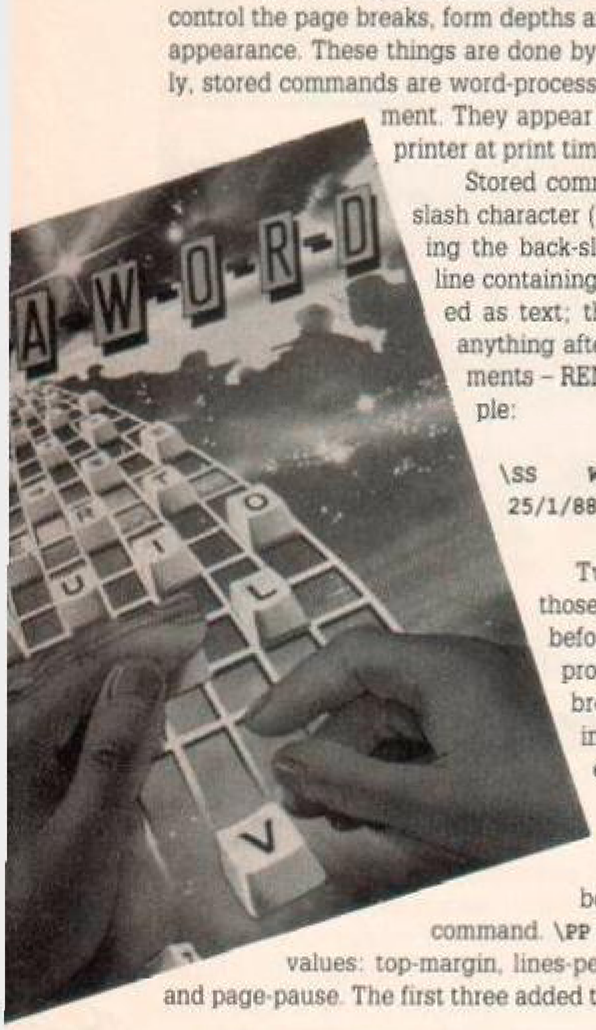
WORDS WORK

How to get the most from your word-processor and printer

Printing from Pyraword

Last issue we dealt with most of *Pyraword's* printing options. Setting up the printer configuration file and modifying control codes was mentioned. This month we look at the word-processor's stored commands.

When printing a document from *Pyraword* it may be necessary to control the page breaks, form depths and so on to achieve a specific print appearance. These things are done by using stored commands. Generally, stored commands are word-processor instructions placed in the document. They appear on screen, but are not sent to the printer at print time.



Stored commands are identified by the back-slash character (\) at the left-hand margin. Following the back-slash is a two-character code. The line containing the stored command is not counted as text; the remainder of the line (that is, anything after the code) may be used for comments – REM statements if you like. For example:

```
\SS    Words Work document created
25/1/88
```

Two categories of commands exist: those that are processed immediately – before printing – and those that are processed during printing (like page breaks). Before-printing options include form depths, headers, footers and so on.

The command **\PP** must be placed at the top of your document (if used). It is probably the best example of a before-printing command. **\PP** allows you to specify a number of values: top-margin, lines-per-page, bottom-margin, line-feeds and page-pause. The first three added together give the form-depth.

```
\PP 04,62,04,Y,N
```

The first value, 04, refers to the number of lines that make up the top margin. The second number refers to the amount of lines left for the body text. The third parameter tells you the number of lines reserved for the bottom margin. The Y stands for yes to line-feeds (N surprisingly enough equates to no). The last character (N) specifies no to page-pause. Note that the first three values, when added together, give the page length in lines. In the case above, 4 + 62 + 4 comes to 70 – standard A4.

Stored commands

Pyraword has a number of stored commands, that is text within a document that appears on screen but is not sent to the printer. Here is a list of the most important:

\PP – specifies print parameters. Top margin, line-feeds and so on.
\HD – marks the beginning and end of a header.
\FT – marks the beginning and end of a footer.
\PN – numbers a page automatically.
\NP – starts a new page.
\DS – puts two spaces between each line.
\SS – single spacing.
\EP – end printing at a particular line or paragraph.

Multiple-file printing

Pyraword has a memory limit of about 32k for each document. However, at print time documents can be joined or chained together. In this way it is possible to link several files on a disk and print them out one after another to produce one large document. This is particularly handy if you are writing a book, manual or thesis and can only fit one chapter per file. The command to use is an extended version of **\EP**, stop-printing.

At the end of each file you must have a line **\EP filename**, where **filename** refers to the next document you wish printed.

The chain operation varies according to how much memory your Amstrad has. On 64k systems printing takes over the whole machine. In plain English this means that you won't be able to edit or create another document until the current file has finished printing. With 6128s and expanded 464 machines printing takes place as a background task.

Headers and footers

A header is one or more lines of text which is to be printed at the top of each page before the top margin. They are often used when printing manuals, technical documents and books. *Pyraword* uses **\HD** at the beginning and end of the lines of text you wish to use as a header. For instance:

```
\HD
Lord of the Rings        The breaking of the fellowship

\HD
```

Footers are similar to headers, but instead of being printed at the top of the page they are printed at the bottom. Often they are used to contain a page number. *Pyraword* uses **\FT** to define a footer:

```
\FT
                    Page \PN

\FT
```

The command \PN will be replaced at print time by a page number. It will be incremented for each successive page.

Both headers and footers can be defined at any time in a document, however, it is worth remembering that the definition must always precede the page on which it is to be used

Page breaks

When you print a document normally, page breaks or form feeds will occur depending on the form depth value (specified by **\PP** command). This could cause paragraphs or spaces for diagrams to be split. To prevent this you can force a page break by using the new-page option, **\NP**.

The problem is knowing where to put the page-break command. Decide how many print lines per page are available. For standard A4 (70 lines) if you use a top and bottom margin or 4, you are left with 62 lines. Program a key to scroll down 62 lines. By simply pressing this key you can determine where a page-break will occur. If after pressing this particular key the cursor is on a blank line, insert **\NP**. If the cursor is buried in text, move it up to the first available blank line and insert the **\NP** command.

Ways with Words

Do you have favourite tricks for getting the best out of your word-processor? Or do you have seemingly insurmountable problems? Share them with other Amstrad addicts. Send them in to: **Words Work, Amstrad Action, 4 Queen Street, Bath, BA1 1EJ.**

Power to the printer

I've just discovered something about *Protext* (CPM versions) which is really gong to change my life. If you're printing a document from *Protext* and you don't want to start at the first page, then this is the simplest way.

After typing the command **PRINT**, you get the message **Page 1. Press SPACE to print**. Instead of pressing the space bar, press any other key. This will skip page 1 and give you the message **Page 2. Press SPACE to print**. Continue in this way until you reach the page you want.

This feature isn't in the manual. I discovered it by accident, and it took me months to realise that it was actually useful. I used to use **SETPRINT** to alter the print options, but the aforementioned method is quicker and more convenient.

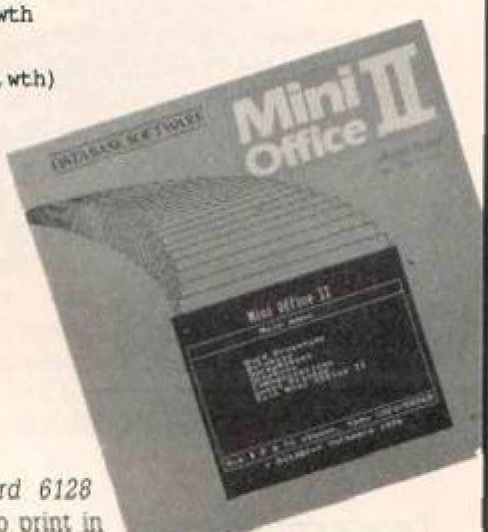
Perry Williams, Cambridge

Ascii converter

When saving files from the *Mini Office II* word-processor, it gives you two options: Ascii and Mini office II format. The only problem with the Ascii option is that although it saves a lot of disk space (*Mini Office II* files use as much as 16k, Ascii around 10k for the same file), when loaded into the processor writing appears over the left and right margins – very messy indeed, and there has been no remedy until now. The program below will convert any Ascii file (including programs saved with the A option) into a *Mini Office II* file.

```
10 ' Ascii to Mini Office II converter
30 MODE 2:CAT
40 margin=5 'this sets the left margin to 5 characters
50 INPUT "Enter source file:",a$
60 INPUT "Enter destination file:",b$
70 INPUT "Mode (20/40/80)";mde
80 wth=mde-margin
90 PRINT:PRINT"Please wait..."
100 OPENIN a$:OPENOUT b$
110 WHILE NOT EOF:LINE INPUT#9,a$
120 b$="":For g=1 TO LEN (a$)
130 IF MID$(a$,g,1)=CHR$(13) THEN b$=b$+CHR$(250):GOTO 160
140 IF MID$(a$,g,1)=CHR$(32) THEN b$=b$+CHR$(251):GOTO 160
150 b$=b$+MID$(a$,g,1)
160 NEXT
170 FOR g=1 TO LEN (b$) STEP wth
180 c$=SPACE$(mde)
190 MID$(c$,margin)=MID$(b$,g,wth)
200 ' 464 users will need to
alter line 180 and 190
210 PRINT#9,c$;
220 NEXT:WEND
230 CLOSEOUT:CLOSEIN
240 PRINT:PRINT "Conversion
finished."
```

Cormac McGaughey, Co Antrim



Near-letter control

Here's a tip for using *Brunword 6128* which you reviewed in AA 24. To print in near-letter quality (NLQ), go to the printer menu by pressing ESC followed by P. Then press shift and f9 together. Enter the printer control codes 27, 120 and 1 respectively. Press control and f9 together and enter 27, 120 and 0. When entering text, to turn NLQ on press shift and f9 together. To turn it off press control and f9.

Paul Blendis, London

Keyboard macros

The **Readme** text file which is supplied on the *Tasword 6128* disk gives some information on the creation of keyboard macros (series of key strokes called by pressing a user definable function key while holding down control). It does not give a full description of the possibilities however, and lists only six out of the large number of command codes available in *Tasword*. I have worked out the full syntax and the codes so that I could create a number of more useful macros.

1 set left margin	182 help window on
4 set right margin	183 help window off
2 mark block beginning	184 goto main menu
22 mark block end	185 printer characters mode
3 delete marked block	186 second character set
5 move text right	187 DEL
17 move text left	188 CLR
6 toggle right justification	189 delete line
7 toggle word-wrap	190 paging toggle
8 insert toggle	191 put header
9 insert line or character	192 put footer
10 or 21 rejustify paragraph	198 enter or exit notepad
11 justify line left	199 display notepads
12 justify line	226 write notepad to cursor
13 enter or return	227 write text to notepad
14 copy block to cursor	228 undelete line
18 find and replace	240 cursor up
19 reset margins	241 cursor down
20 get header	242 cursor left
25 get footer	243 cursor right
23 centre line	244 fast scroll up
24 reset tabs	245 fast scroll down
26 clear tabs	246 word left
27 scroll help down	247 word right
29 scroll help up	248 go to top of file
32 to 126 Ascii characters	249 go to bottom of file
127 pound sign	250 start of line
181 set a tab stop	251 end of line
	252 full help screen

Tasword's **Readme** file shows how single code numbers can be entered using the **CHR$** command, but codes which are repeated can be entered using **STRING$**. For example, **STRING$(7,243)** will move the cursor seven steps to the right. This will not overwrite any text present, (unlike **SPACE$**, which is suggested in **Readme**). Four of my nine macros provide alternative margin and other settings, and will allow the alteration of previous settings without affecting text. The following example clears any previous margins before setting them to 8 and 75, turns paging on, right justification off, and removes the help window.

```
20 KEY 1,CHR$(19)+CHR$(250)+STRING$(7,243)+CHR$(1)+
   STRING$(67,243)+CHR$(4)+STRING$(250)+CHR$(190)+
   CHR$(6)+CHR$(183)
```

The next example sets the margins to 8 and 70, retrieves my address from notepad 1, resets and then removes the Help window, places the cursor in position for entering the date, and turns Paging on – it saves more than 25 key presses.

```
20 KEY 0,CHR$(19)+CHR$(250)+STRING$(7,243)+CHR$(1)
   +STRING$(62,243)+CHR$(4)+STRING$(5,29)+CHR$(198)+
   CHR$(226)+CHR$(198)+STRING$(5,27)+CHR$(183)+
   STRING$(5,13)+STRING$(45,243)+CHR$(190)
```

The next macro goes direct to the save mode from the text file. It helps regular backing up during the creation and editing of long documents.

```
80 KEY 6,CHR$(184)+"S"+CHR$(13)
```

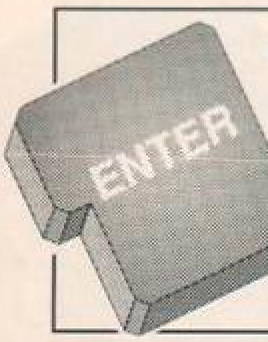
J Crabtree, Darlington

Absolute Beginners

The third in a series of articles taking you from complete ignorance to COMPLETE mastery of Basic

The story so far

Last issue we saw how you can give your CPC instructions to clear the screen, print up pieces of text and change the screen mode. We also saw the way that simple instructions like CLS, PRINT and MODE can be joined together with colons. This month we shall be looking at simple graphics instructions. Also we'll be moving on from instructions to programs.



Keys of choice

On computers in general, the key you press to mark the end of an instruction is called the RETURN key. It is actually labelled RETURN on the 6128, but on the 464 and 664 it is the larger of the two keys marked ENTER. Remember that you have to press this key after each typed instruction.

Before you start

Sometimes, especially when you're working with graphics, you can get your Amstrad in such a state that you just can't give instructions properly. Maybe you can't see what you're typing because of the way you've altered the screen colours – this often happens. If you do get in this kind of fix, and you just can't get out of it, you can simply switch the machine on and off again. This will certainly get you out of the fix, but it's a bit drastic.

A better answer, in most cases, is to reset the computer. Press the control (CTRL) and shift keys together and, still holding these down, press the escape (ESC) key. This will give you the same start-up message as if you had just switched on. If you follow these reset instructions properly and fail to get the start-up message, you have got a crash or lock-up on your hands. In this case, you will need to switch your computer off and on again.

Pen and paper

The graphics effects which your Amstrad can produce depend very much on which of three MODEs (0, 1 or 2) you're in. When you first switch on, the CPC is in MODE 1. As we saw last time, this gives you 40 characters to each screen row. It also gives you up to 4 different colours on the screen at once. You can only see two of them at first – blue and bright yellow. It's easy enough to get at the other two available colours, though. Type:

```
PEN 2
```

If the machine understood this, you'll now be writing everything in bright cyan – a sky blue colour. If it didn't understand it, you probably forgot the space between PEN and 2. On a green screen monitor you should be able to see the change, but it's hardly spectacular. Try:

```
PEN 3
```

First Bytes

So, hexadecimal horrifies you? We have the solution in this section devoted to the novice machine code programmer.

Last issue you were left with three binary-addition problems: 0100101_2 + 11011_2, 1111_2 + 0001_2 and 010110_2 + 101011_2. The answers are as follows:

```
  0100101        1111        010110
+   11011      + 0001      + 101011
= 1000000      = 10000     = 1000001
```

Signed binary

You should know that with eight individual bits (or digits) the largest binary number you can represent is 11111111_2 (or 255 in decimal). This holds true for unsigned binary. In signed binary represenations, the left-most bit is used to indicate the sign of the number (that is, positive or negative). Traditionally a 0 is used to denote a positive number and a 1 is used to signify a negative number. With this knowlege under your belt, it should become clear that 11111111_2 – in signed binary – represents -127 (decimal) and 01111111_2 is +127. It is now possible to show positive and negative binary numbers. The trade-off, however, is the maximum magnitude of these numbers: 127.

Say you wished to perform the addition, using signed binary, of -5 and +7. You might try:

```
(+7) 00000111
(-5) 10000101
   = 10001100
```

Convert 10001100_2 to decimal and you'll get the value -12 – not the correct result. As you know, when you add +7 and -5 together the answer is +2. Obviously something has gone wrong with our calculation. Indeed, the binary addition of signed numbers does not work correctly. The solution is to use something called two's complement. But before two's complement, you must understand one's complement.

In one's complement represenation, all positive numbers are displayed in their correct binary format. For instance, +3 is represented as 00000011_2. However, its complement (-3) is obtained by complementing every bit in the original representaion. This means that every 0 is turned into a 1 and vice versa. Now -3 will be 11111100. Using another example, the complement of 00001101_2 (+13) is 11110010_2.

Signed-binary table

Binary	Decimal
01100001	+97
11100001	-97
10010000	-16
10000001	-1
00000010	+2

Binary-coded decimal

Including decimal, binary and hexadecimal, one other system is commonly used in computing – binary-coded decimal (BCD). As its name suggests, it is a hybrid of binary and decimal. It is commonly used where an output is needed in digital format. A digital clock, say.

The principle in representing numbers in BCD is to encode each decimal digit seperately, and to use as many bits as necessary to represent the complete number exactly. In order to encode each of the digits from 0 to 9, four bits are necessary. Since only four bits are needed to encode a BCD digit, two BCD digits may be encoded in every byte – remember, a byte contains eight bits or digits. For example, the number 21 is translated into BCD in the following manner: 2 (0010_2) and 1 (0001_2) give 00100001_2 (21).

Two's complement

With two's complement, positive numbers are still represented as usual. The difference lies in the representaion of negative numbers. A negative number is obtained in two's complement by first representing the value in one's complement and then adding 1. For example, the number +3 (00000011_2):

This turns the letters bright red in colour, (very dark on a green-screen). Now we've got a total of four colours on screen – the maximum available in **MODE 1**.

So as you can see, to change the colour of text, you simply use the **PEN** command followed by a single number. The number (which, as we saw last time, is called operand) simply selects one of the available colours. In this case, because we are in **MODE 1**, the number should be in the range 0 to 3 – 0 gives blue text, 1 bright yellow and we've just seen 2 and 3 in action.

If you were to switch on and immediately type **PEN 0**, you'd have blue text on a blue background. That means you wouldn't read anything the computer displayed – and that would make life very difficult. Of course you could read blue text if it was on some different coloured background. Type:

```
PAPER 3:PEN 0
```

You should now have blue text against a red background. Notice that **PAPER** doesn't change the background of the whole screen – just the little square of background behind each character. If you want to change the whole background type **CLS**.

Apart from that, **PAPER** works the same way as **PEN**. The number following it selects that colour as the new background. try experimenting with these commands. You might even find a combination of pen and paper colours that is easier to read.

The ink command

So far we've been talking about **MODE 1** which gives you 40 characters to the row, and up to 4 colours on the screen at any one time. MODE 0 offers 20 characters per line in up to 16 colours at any one time. You may think this doesn't match up with the Amstrad adverts which said you can get 27 colours. Don't worry – you haven't been conned. The computer can display 27 different colours, but not all at the same time. You can only use 16 colours at once in **MODE 0**, but you can choose which you want out of the palette of 27.

Likewise, you can choose 4 out of 27 for **MODE 1**, or 2 out of 27 for **MODE 2**. Try doing this. Reset the computer, and type:

```
INK 0,9
```

This should leave you with the screen background coloured green instead of blue. On a green screen it's just a paler green than before, but the change is still perfectly visible. Unlike **PAPER**, it affects the whole screen immediately.

Next issue

Next month, armed with an understanding of colours and inks, we'll be venturing into the world of **DRAW**ing and **PLOT**ing. On the program side of things, we'll be dealing with lines: line numbers and editing.

In the meantime experiment with **INKS**, **PENS**, **COLOURS**:

0 Black	9 Green	18 Bright green
1 Blue	10 Cyan	19 Sea green
2 Bright blue	11 Sky blue	20 Bright cyan
3 Red	12 Yellow	21 Lime green
4 Magenta	13 White	22 Pastel green
5 Mauve	14 Pastel blue	23 Pastel cyan
6 Bright red	15 Orange	24 Bright yellow
7 Purple	16 Pink	25 Pastel yellow
8 Bright magenta	17 Pastel magenta	26 Bright white

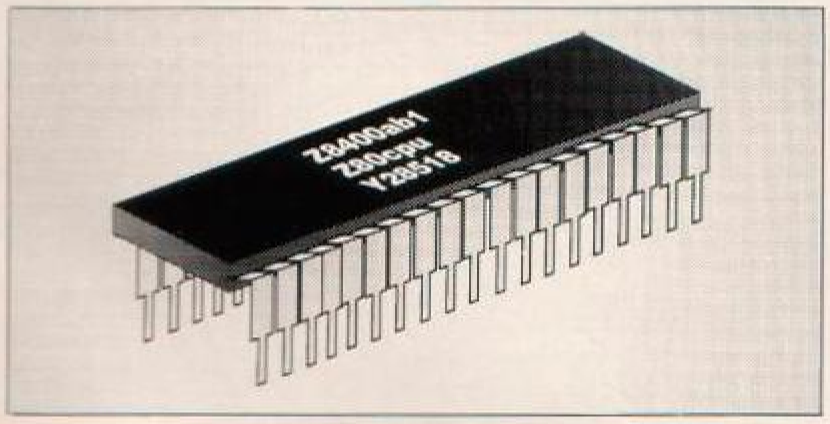
00000011 – +3 in standard signed-binary format
11111100 – -3 in one's complement format
11111101 – two's complement format

Let us try a subtraction:

```
(+3)  00000011
(-5)  11111011
  =   11111110
```

To identify the result you must compute the result using two's complement. The one's complement of 11111110 is 00000001. Add 1 and the result becomes 00000010 – which is +2 in decimal. The earlier result of 11111110 represents -2. We have found the correct result.

Try the following signed-binary additions and subtractions using two's complement: $00100001_2 + 01001011_2$ and $00110010_2 - 00010001_2$. Answers next month.



Numeric conversion chart

Decimal	1	2	3	4	5	6	7	8	9	10
Binary	1	10	11	100	101	110	111	1000	1001	1010
Hexadecimal	1	2	3	4	5	6	7	8	9	A

Decimal	11	12	13	14	15	16	17
Binary	1011	1100	1101	1110	1111	10000	10001
Hexadecimal	B	C	D	E	F	10	11

Hackers Only

The box that caters for the more advanced programmer.

In previous issues we have published routines for printing numbers to the screen in decimal and hexadecimal. This month there's another useful print routine. It takes the contents of the accumulator and prints (at the current cursor position) the result as an eight-digit binary number.

Entry conditions: A register holds number to print. Exit conditions: F and BC corrupt. Length: 21 bytes. Code type: relocatable.

```
            start
06 08                LD B,8
            loop
07                   RLCA            ;rotate A left
F5                   PUSH AF         ;save number
38 07                JR C,not_zero   ;jump if carry not 0
3E 30                LD A,&30        ;load A with Ascii 0
CD 5A BB             CALL &BB5A      ;print 0
18 05                JR onwards

            not_zero
3E 31                LD A,&31        ;load A with Ascii 1
CD 5A BB             CALL &BB5A      ;print 1
            onwards
F1                   POP AF          ;restore number
10 ED                DJNZ loop       ;jump loop if B not 0
C9                   RET
```

HOT TIPS

Have you special tricks and tactics with serious software and hardware? Share them with other Amstrad addicts. Send them to "Hot Tips", Amstrad Action, 4 Queen Street, Bath, BA1 1EJ. Remember the best tip each month gets £20.

●464 version

Last month in Problem Attic there was a listing that sent all on-screen text to a printer. The routine only worked on 664 and 6128 machines. I have written a version that will work with the 464 – and for that matter, any of the CPC computers.

The variable `md` in line 1Ø holds the screen mode. It is set up for mode 2. Change the value to a 1 for mode 1 or a zero for mode Ø. The routine will fit neatly into your own program.

```
1Ø md=2:at=2^(md+1)*1Ø:MEMORY &9C49
2Ø FOR ad=&9C5Ø TO &9C5F
3Ø READ n$:POKE ad,VAL("&"+n$):NEXT
4Ø DATA cd,6Ø,bb,fe,ØØ,28,Ø4,cd
5Ø DATA 2b,bd,c9,3e,2Ø,18,f8,ØØ
6Ø FOR y=1 TO 25:FOR x=1 TO at
7Ø LOCATE x,y:CALL &9C5Ø:NEXT x,y
```

William Lawrie, North Muirton

●Number entry mugtrap

Here's a routine for verifying that a number has been entered following an `INPUT` prompt. It avoids the awful `? Redo from start` system prompt and allows the programmer to substitute his own message:

```
1Ø ' Mugtrap FOR number entry
2Ø MODE 2:LINE INPUT "Enter a number: ",a$
3Ø CLS:b$=a$:IF LEFT$(b$,1)="Ø" THEN MID$(b$,1,1)="1"
4Ø IF RIGHT$(b$,1)="Ø" THEN MID$(b$,LEN(b$),1)="1"
5Ø IF LEFT$(b$,1)="-" AND MID$(b$,2,1)="Ø" THEN
   MID$(b$,2,1)="1"
6Ø IF STR$(VAL(b$))=" "+b$ OR STR$(VAL(b$))=b$ THEN
   PRINT "The number you have entered is ";a$ ELSE PRINT
   "You have entered ";a$;" which is not a number."
7Ø FOR delay=1 TO 5ØØØ:NEXT:RUN
```

Line 6Ø does the work. It converts the entry, held in `b$`, to a numeric variable and back to a string again. The result is compared with the original

PROBLEM ATTIC

RpM goes on his latest problem solving escapade. If your CPC's in danger, if you need help, then perhaps you can contact the AA team.

Silent sound chip

My first problem concerns several of my games; when I play them on my 6128 with green screen, they play very slowly. However, when I run the same games on my cousin's colour 6128, everything works much faster. Can you account for the speed difference?

My second problem is my sound chip. Every so often, when I turn my computer on, it emits a strange crackly hiss from the speaker. All the sound in games is then quieter than usual – sometimes non-existent. I loaded *Antiriad* from cassette and the title tune began to play. I plugged in a joystick and all sound ceased. The only cure I can find for this problem is to turn off the machine and leave it off for over an hour. What is wrong?

Stephen Trimmer, Broadstairs

Your problems are connected: the AY-3-8192, better known as the sound chip, has two uses in the CPC machine: keyboard interrogation (including joystick) and sound generation. You say, Stephen, that the machine doesn't emit any sound (or very little) when you switch on. Do you have the joystick plugged in? I suspect you do. Joysticks are notorious on the Amstrad and – although it hasn't been proved – some can damage the CPC's sound chip. The reason seems to be that the joystick supplies +5v on a pin that should have no voltage.



If your sound chip hasn't been damaged already, I suggest removing the joystick and not using it again. It will cost you about £20 to replace the AY-3-8192 – not cheap.

Not enough disk space

I have a disk which I use for short type-in utilities – each about 1k or 2k long. I have now come to the point where I have about 50k of room on the disk (which is system formatted), and I have 64 filenames on it. It is now impossible to store any more listings on the disk as the directory is full. Is there any method for getting round this?

Ian Williams, Waltham Abbey

It is possible to alter the number of directory entries per disk, however, you must decide how many entries you want before saving anything to the disk.

Before you save enter:

```
A=PEEK(&BE42):B=PEEK(&BE43):C=B*256+A
CAT:POKE C+24,&FF:POKE C+7,63
```

Note that the last value – 63 – refers to the number of directory entries on the disk. Anything between 63 and 127 is safe. To load, save or catalogue the disk with extra directory entries, you must first enter the two lines of Basic above. If you don't you may lose certain files.

Computer showdown

My brother is thinking of buying an Amstrad PCW 8256. He wants to use it for word-processing and for projects in his college course. He would need to have Cobal and Pascal compilers – preferably Z80 based.

string. A space is inserted at the front of the string to allow for the fact that Basic automatically adds a leading space to numbers to leave room for a minus sign. To cover negative numbers a comparison without the added space is also validated.

Line 3Ø and 4Ø respectively ensure that numbers with leading zeros and decimal numbers with trailing zeros are accepted. Line 5Ø similarly ensures that trailing zeros are accepted. The variable a$ is first copied into b$ to avoid corrupting the original entry.

Colin Cotterill, Nunthorpe

● Veritable variables

While glancing through the Amstrad 6128 User Instructions I noticed that the description of variables was very shoddy. Following is my explanation.

A variable name is the name given to a group of letters which represent a value that is defined by the user. There are three types of variable:

Real: these can be used to store numbers or decimal fractions. For instance, 123.987 and 23.

Integer: can only store whole numbers. 123 or 23, say.

String: a group or string of characters can be stored in this type of variable. The characters forming the variable must be enclosed in quotes.

Each of the variable types is distinguished by the last character of the variable name. A real variable has just a name: `a=25.9`, `lives=3` and so on. Integer variables have a percent symbol as their distinguishing mark: `d%=123`, `form%=9`. String variables have the dollar symbol proceeding the variable name: `s$="A"`, `name$="Electro Freddy"` for instance.

Should you need long variable name – to make the listing more readable – then use full stops between word: `first.letter$="A"` is easier to read than `firstletter$="A"`.

● The bug stops here

In the Christmas edition of Amstrad Action there appeared a review of *Stop Press*. One of the comments that caught my eye was the reference to the bug in the cutout section of the program. Basically the screen goes wild if you try to load several cutouts from the disk (this only happens on the CPC 464). I have found a way of loading as many cutouts as I want without causing the machine to crash or the page to scroll uncontrollably:



1. Before you try loading any cutouts click the Goodies icon.

2. From the menu click on the | Command icon.

3. When the screen clears and the | appears type DIR.

You will get a directory listing of the disk currently in the drive – it can be any disk. Press ESC to quit from the | Command mode and then go about loading your cutout in the normal way.

It works all the time. And I know that it works on the latest version of *Stop Press* as I have a friend who is using the latest release.

Rupert Cahill, Ferns

Great tip, Rupert. I'm sure it will be a godsend to many other Stop Press users. £2Ø is on the way.

Could you please tell me if the above computer would be suitable.

S Clarke, Guildford

What's wrong with the CPC 6128? There are several good word-processors available including: Protext on disk for £26.95 (available from Arnor on 0733 239011), Tasword 6128 for £24.95 (available from Tasman on 0532 438301). As for languages, the CPC machines have a very healthy selection. Hisoft are the major force in programming utilities. Indeed, Cobal and Pascal 80 are available from them at £39.95 a piece. Hisoft can be contacted on 0525 718181.

Assembler errors

In several past issues of Problem Attic you used the `RST 3` instruction to access the extra disk commands. In your example programs the mnemonics used ran something like `RST 3,store`. The variable store pointing to the rom address. When I try and use this notation in either of my assemblers (*Pyradev* and *Raw*) an error message is returned. The assemblers accept `RST 3`, but not `RST 3, store`. Why? What is going on?

G Mudford, New Zealand

Compared to other Z80 machines, the CPC computer interprets `RST` *operands in a non-standard way. Maxam and a few other assemblers handle these instruction CPC-style. However, the assemblers you mention cope with* `RST` *instructions in the more usual manner.* `RST 3, address` *translates to the following on Pyradev and similar assemblers:*

```
RST #18
DW address
```

Colours from CPM

From CPM plus I want to be able to alter the screen colours. I know I can do this by physically typing in `PALETTE 63,0`, but I want this to happen automatically when I boot up. Help.

Michael Tomlinson, Horsforth

Type in the short basic listing below. Make sure your CPM plus boot disk is in the drive. Run the program.

```
10 OPENOUT"PROFILE.SUB"
20 PRINT #9,"PALETTE 63,0"
30 PRINT #9:CLOSEOUT
```

Whenever you boot CPM the colours will change automatically.

Fitting 8" drives

I have recently acquired what I think is a Wang 8-inch disk drive. I would be grateful if you could tell me whether it can be used with an Amstrad 464. If yes, how?

A Scott, Leytonstone

Unfortunately it's impossible to fit an 8 inch drive to a CPC computer. The simple reason is that the Shugart standard for 5.25-inch drives (also used for 3 inchers) is different to that of 8-inch drives. The larger drive normally uses a clock frequency of 8 MHz (the Amstrad's uses 4 MHz). To get an 8-incher to work would be a very tough, mind-boggling affair. Don't even think about it.

Funny formats

Is there some way of altering the format identifier which is usually &C1 (data), &41 (CPM) or &01 (IBM). I know there is an entry in the directory which holds the user number. I assume, therefore, that there must be a similar entry in ram for the format identifier. Where is it?

M Lyons, Burnage

To find the location of the format identifier use the following algorithm:

```
A=PEEK(&BE42):B=PEEK(&BE43):C=B*256+A:D=C+15
```

`D` *holds the location of the format identifier. If you wish to change this parameter, you must also POKE C+24,&FF. This will stop the system*

464 + 40025 = 6128

Richard Monteiro's step-by-step guide to converting a 464 or 664 into a 6128

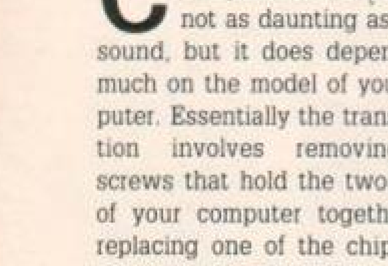

● carefully open the computer

Converting your 464 or 664 computer to a CPC 6128 is not as daunting as it may sound, but it does depend very much on the model of your computer. Essentially the transformation involves removing the screws that hold the two halves of your computer together and replacing one of the chips from the main circuit board.

The obvious difference between a 464 and 6128 is the 464's lack of a disk drive. Less obvious is the 6128's extra 64k of memory. Perhaps least noticeable is the 6128's extended Basic command set. If you want to run 6128 software, use 6128 hardware and generally do things that only a 6128 can do, then all three items are essential.

Changing the Amstrad's operating system – the Basic, if you like – is the hardest part of the exercise. The alteration entails removing the old operating system (which is held on rom) and replacing it with a new rom. The very early 464 computers have a plug-in rom; later 464s and 664s have the chip soldered in.

First switch off at the mains, unplug the keyboard from the monitor and remove any peripherals you may have sticking out of the back of the computer. Turn the computer upside down with the tape deck (disk drive on the 664) face down on the right; you will notice six holes (seven on the 664). Remove the screws located at the bottom of the holes with a Philips screwdriver.


● Disconnect the plug leading to the tape deck

Gently lever the two parts of the computer apart. You won't be able to open the machine completely as there are several wires holding the halves together. If you peer inside, towards the left, you will see a plug from which several wires are flowing. These wires lead to the keyboard matrix. Disconnect the plug from the main circuit board. It may be stiff; don't be frightened of using a little force – if necessary use a screwdriver to help. 664 owners will notice two smaller plugs (one carries power to the speaker, the other to the red LED) near the large plug. Undo these. The 664 will now lie in two pieces.

If you have a 464 then on the right, towards the tape deck, you will see another plug (the wires of which lead to the tape deck). Disconnect this. The 464 will now come apart in two bits.

For the moment discard the part that contains the keyboard. Turn the piece containing the circuit board towards you – the writing on the chips should be the correct way up. If you look to the left of the circuit board you will see a chip labelled SOUND AY-3-8912 (this slice of silicon sees to sound production and keyboard control). Below the sound chip is the AMSTRAD 40009 rom (AMSTRAD 40022 on the 664). This is the beast that needs replacing; it contains the Amstrad operating system. Depending on the age of your CPC computer, this chip will either be soldered into place or fitted into an IC socket.

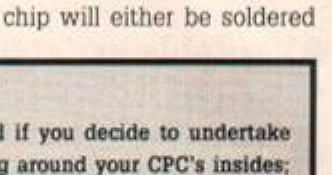
Ingredients

You will need a disk drive, extra memory and a rom containing the latest Amstrad operating system if you wish to convert your 464 to a 6128. It isn't essential to add a disk drive and memory, but then you won't reap the benefits of all the wonderful 6128-only software. What you will have, though, is a machine that will be able to run any Basic listing found in any Amstrad-devoted magazine. The list:

Part	Cost	Supplier	Telephone No
40025 Basic rom	£21.75	CPC Ltd	0772 555034
Dk'tronics 64k ram	£40.95	Ram Electronics	0252 850085
DDI-1 disk drive	£159.95	Amstrad	0277 228888

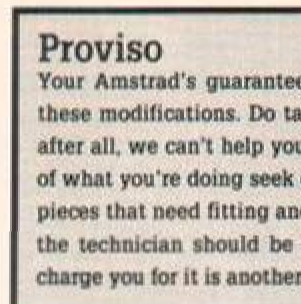
Proviso

Your Amstrad's guarantee will be invalidated if you decide to undertake these modifications. Do take care when poking around your CPC's insides; after all, we can't help you if your screwdriver slips. If you are at all unsure of what you're doing seek expert advice, or take your computer, the bits and pieces that need fitting and this article to a reputable computer-repair shop; the technician should be able to do the job in no time at all. What they charge you for it is another matter.


● Use a screwdriver to remove the chip

Earth yourself before you touch any of the chips. This can be done by touching water or heating pipes. To the left of the 40009 rom you will see a capacitor (round, brown thing on two legs). Carefully push this flat against the circuit board.

If your computer has the rom fitted in an IC socket, place a flat-head screwdriver between the socket and the rom (right-hand side); twist the screwdriver slowly. The rom will rise a little. Remove the screwdriver repeat the process from the left end. By repeating these actions several times the chip will eventually come out.


● Gently insert the new rom

Insert the new chip (AMSTRAD 40025) when the old one has been pried out. Take care that the notch on the 40025 is pointing to the left. Bend the legs inward – on both sides of the rom – if you have problems fitting it.If your computer has the 40009 (or 40022 on the 664) soldered to the circuit board, and your confident of your ability to use a soldering iron, then replace the chip very carefully. Don't attempt this if you have little or no experience with such things – seek technical help.

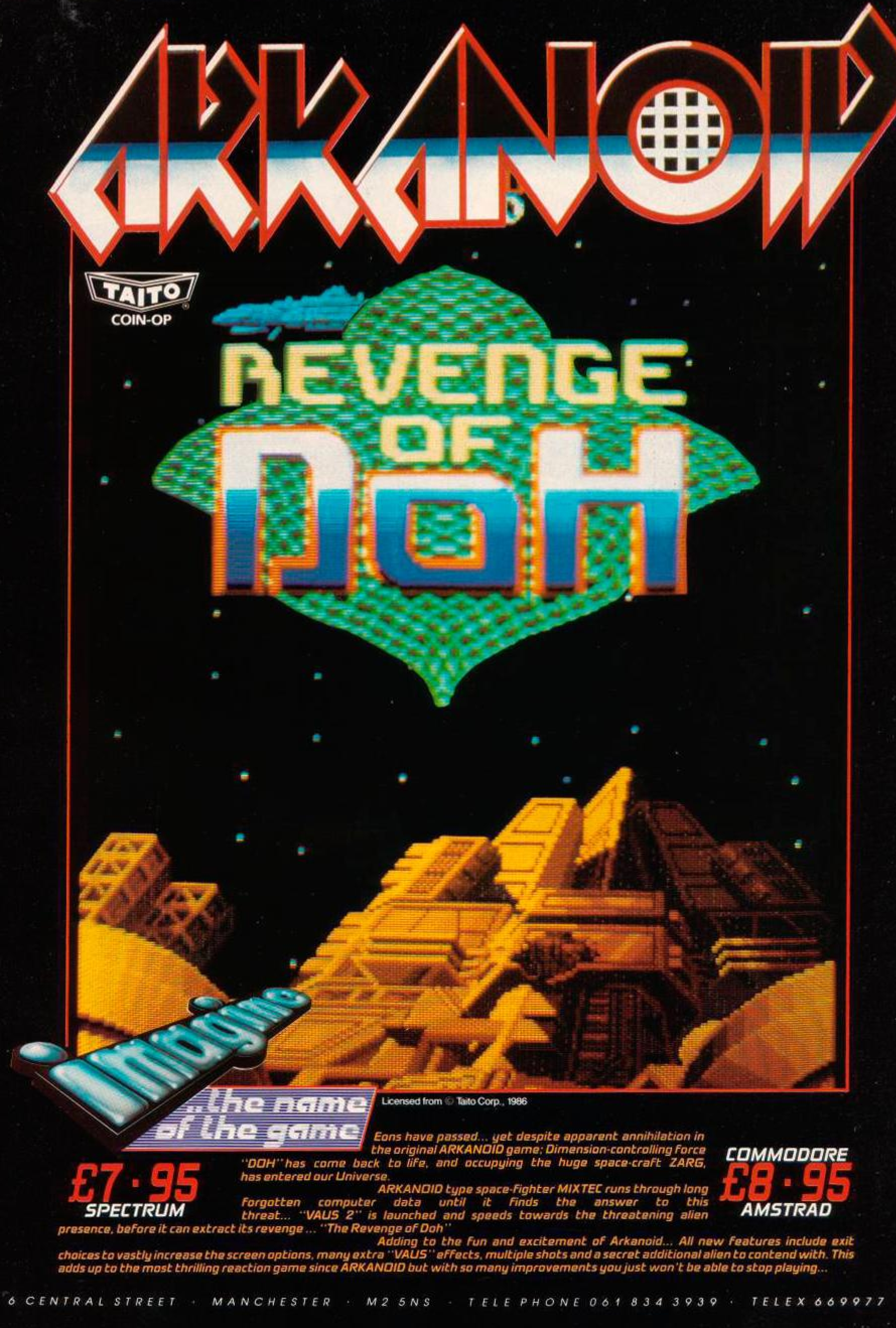
With the new 40025 rom in place put the computer back together. If you have the Dk'tronics expansion ram, plug it in (and if you own a 464 disk drive, plug it in). Connect the leads from your monitor to the keyboard. Switch on. You should be greeted with `Amstrad 128k Microcomputer (v3)`...

Compatibility

Your upgraded machine will act as a 6128. The software you run on the computer will think it's using a 6128. To use things like the *Art Studio*, CPM plus and *Meltdown* you will need Dk'tronic's 64k expansion ram (and a disk drive if you have a 464) – all the software uses 128k of memory. We have successfully tested the following: CPM plus operating system, the Art Studio, Tas-Sign, Meltdown, Multiface II, The Pawn, Brunword 6128

So far our upgraded computer has worked perfectly. If you find any products that don't work with this new setup do let us know. Write to Reaction. Also let us know if you have any other problems, or have advice for people wanting to make the change.

Amstrad ☎ 0277 228888
Brentwood House, 169 Kings Road, Brentwood, Essex
CPC Ltd ☎ 0772 555034
194-200 North Road, Preston, Lancashire, PR1 1YP
Ram Electronics ☎ 0252 850085
Unit 16, Redfields Industrial Park, Redfield Lane, Church Crookham, Aldershot, Hants, GU13 0RE


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'As far as features go, probably th[illegible] snooker game about. It's very playabl[illegible] speed and spin easily controlled' - [illegible]



COLOSSUS CHESS
'If you want a chess program then look no further' - ZZAP! 64

COLOSSUS BRIDG[illegible]
'Its greatest strength is the sheer range of practice and cheat options .... these make Colossus the best bridge practice program yet' - Popular Computing Weekly.

NEW

COLOSSUS MAH JONG
This computer version of the ancient oriental game, includes 3D graphics, nine levels of intelligence and a tutor, and is a worthy member of the Colossus series.

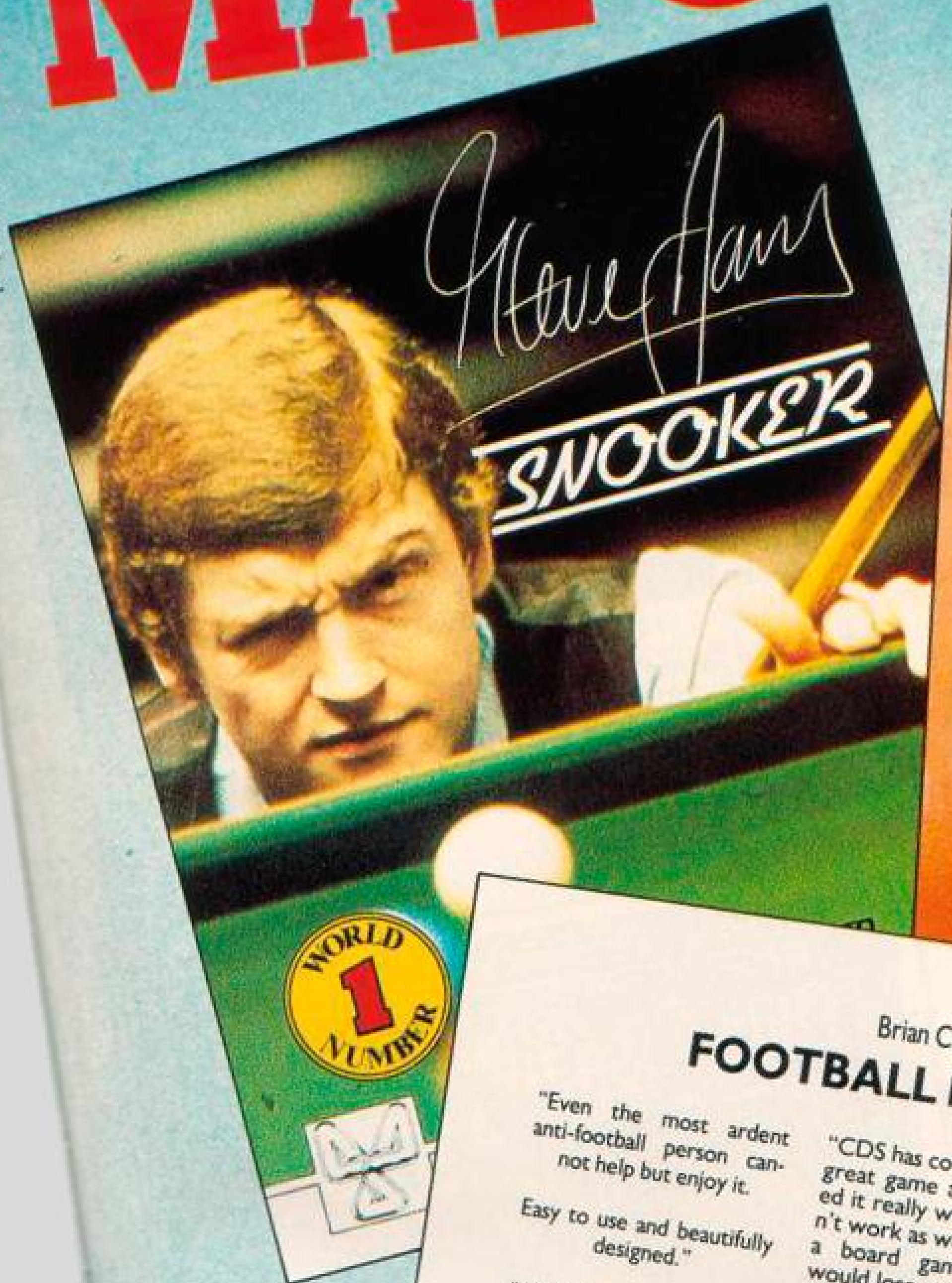
CDS Software LTD CDS HOUSE, BECKETT ROA[illegible],

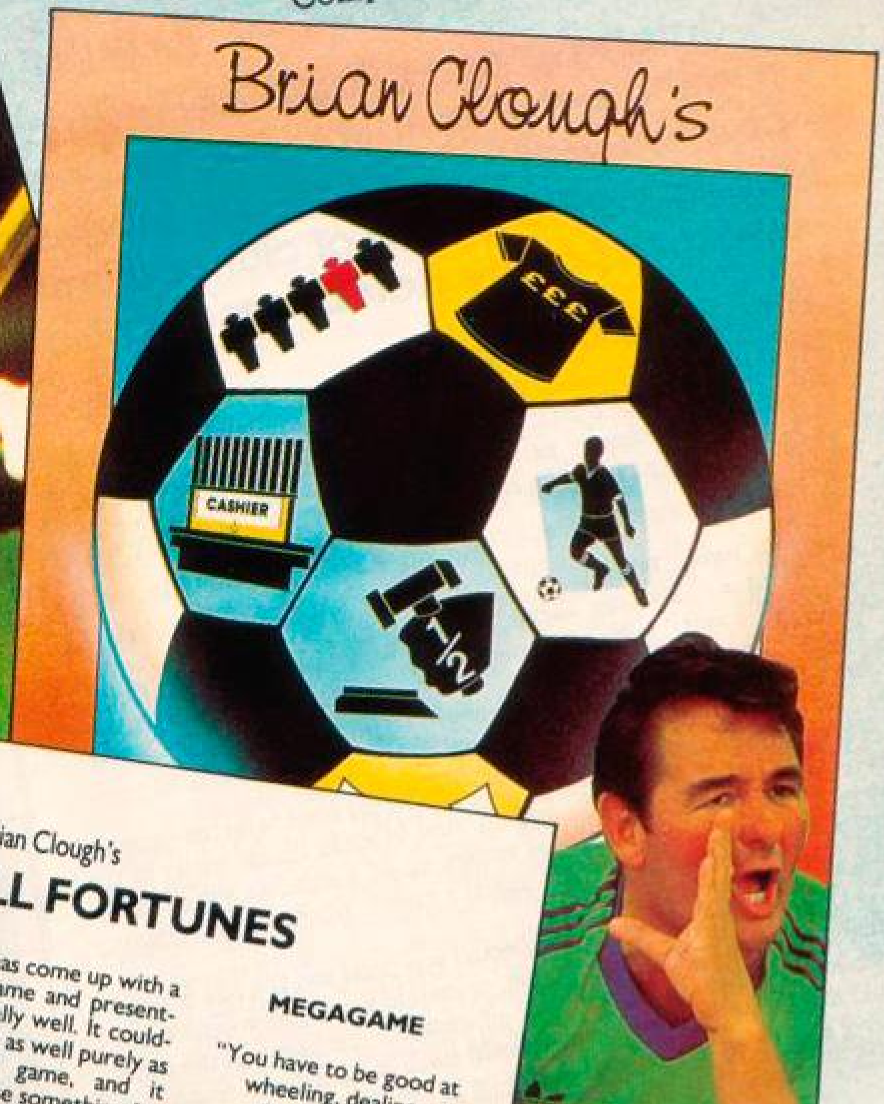
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Discovering Databases



A database can bring order from chaos and eliminate the need for filing cabinets packed with paper. Richard Monteiro introduces you to the art of clutter elimination and looks at the databases available.

Why do I need a database?

You have a vast collection of interplanetary dust particles, each lovingly filed in its own little plastic bag, and wish to catalogue them; bring some order into their chaotic existence. But how do you go about it? How should each piece of dust be categorised? Using pen and paper you could scrawl:

```
Particle name: Terra
Composition:  Powdery earth
Location found: 4 Queen Street, Bath
Colour: Pale brown
Weight: 0.003 mg
```

But that just covers one particle. You would need to do the same for every bit of dust in your possession. And to make things easier in the long run, each particle should be written up on a separate slip of paper. You could use a card box or card index; a system where cards containing data are arranged systematically.

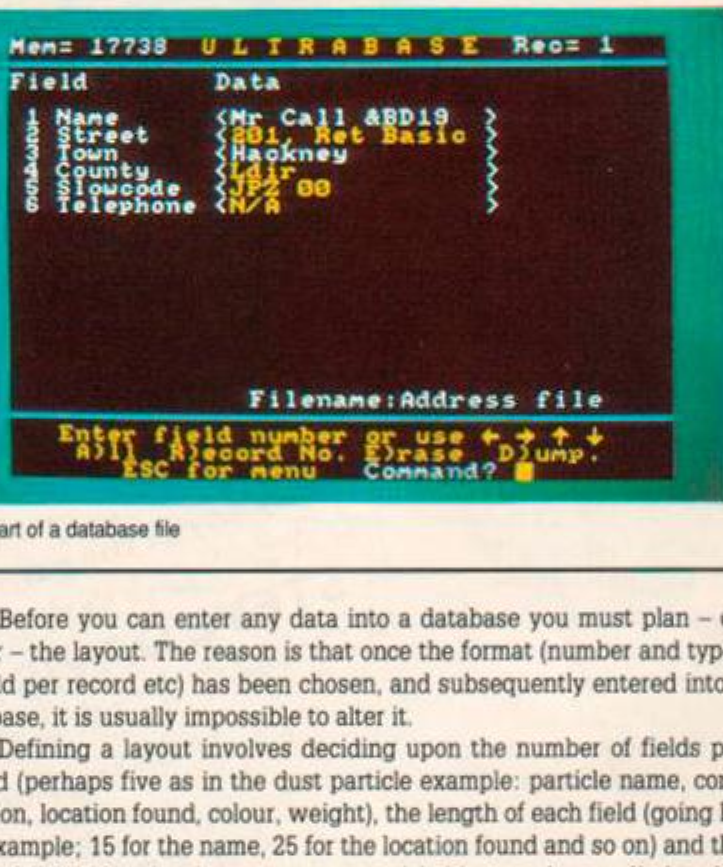
Once all the data has been collected you could sort the bits of paper alphabetically, in particle-name order, or even in ascending weight order. Of course, you may not want all that information – perhaps just the name would suffice – or you may wish to keep track of other facts: number of sides or resistance to heat say. That is up to you. It is imperative, however, that you decide upon the format of the particle information sheet before you start entering data. For it would look very messy if you decided to cross out one piece of information, colour perhaps, and replace it with another or even remove it all together.

Enter the **database**. All your dust particle data can be stored, edited, sorted and printed from such a program. The job could be done painlessly and a lot faster. Retrieving your data would almost be instantaneous. Of course, databases (like card boxes) aren't restricted to collections: mailing lists, books and authors, properties and numerous other objects that require some form of cataloguing or have a common denominator – such as, name, location, date.

Off the record

Anything you might write on a card from a card index may also be entered in a record of a database file. Each individual item in the record, like name or address, may be placed in a separate field. Thus:

Field – individual piece of information (name or address, say).
Record – several bits of data, that are the equivalent of one card in a card index.
File – a collective term for all the records of a particular subject.



● Part of a database file

Before you can enter any data into a database you must plan – on paper – the layout. The reason is that once the format (number and types of field per record etc) has been chosen, and subsequently entered into a database, it is usually impossible to alter it.

Defining a layout involves deciding upon the number of fields per record (perhaps five as in the dust particle example: particle name, composition, location found, colour, weight), the length of each field (going by our example; 15 for the name, 25 for the location found and so on) and the type of field (that is, character or numeric). Most packages distinguish between character and numeric data. More advanced databases can perform arithmetic calculations on numeric values – much like a spreadsheet. This can be particularly useful as you can have the balance updated automatically by the computer every time a record is amended. Of course, more complex calculations involving credit and interest payments are also possible.

When setting up a database there will come a point when the program asks you for a key field. This is simply the field by which the record will be known or identified – name is one of the wisest choices.

What is a database?

In its simplest form a database is an electronic (or computerised) card box. Anything that might be kept in a card box – such as an address list, book catalogue or details of component parts – can easily be stored in a database. With a card box it is possible to sort all the entries alphabetically or by date order – in fact, in any way you wish. The same is true for a database, only it takes seconds to sort rather than minutes or even hours. The advantages of a database, and there are many, include speed, large storage capacity and powerful printing options.

Report to sender

Once you have successfully entered all the relevant information into the database you can start displaying and printing the data in all sorts of wonderful ways. Producing a report is the term often used.

To do this you must tell the computer how you wish the various fields to be arranged on paper. With most databases you may have a

number of report-formats. The idea is that you might have one format for displaying all the information, another for printing just names and address, yet another for printing names and amount owed... the possibilities are endless, but again advance planning is necessary.

Of course, the usefulness of a database does not end there: you could view or print every record in alphabetical order, you may edit and delete records, and with really powerful packages you can relate information from one file with that of another. A database is only as good as the work you put into it. Setting up may be a little tough, but the benefits over box index systems are enormous.

Choosing the right database can also prove a headache. There is a healthy selection for the CPCs; the prices starting around the £20 mark and climaxing at £100. To help you make up your mind there follows a brief look at four databases currently available.

Legal requirements

You've probably heard a lot about the Data Protection Act recently. Since it came into operation on November 11th 1987 you have had the right to know the details about yourself stored on almost any computer. That is looking at it from one angle. If you are storing or intending to store data regarding other people on computer then you may need to register.

Straight payroll and account details of your employees would not make you liable to register; neither would standard name-and-address lists of your club members used purely for mailshots. However, if you store any other information or start mailmerging – that is, using *Tasword* or *Promerge* commands like "if address contains Leeds then print this paragraph" – you would have to register no matter how trivial or boring the information may be.

Further information can be obtained from your local library under *Data Protection Act: Guidelines* or in *Data Protection: Putting the Record Straight*. The latter is by Roger Cornwell and Marie Staunton and is available from the National Council for Civil Liberties at 21 Tabard St, London, SE1 4LA. Price £3.95 + 40p postage.

Random Access Database

Minerva Systems, £29.95 disk only

There are two types of filing system available for databases. The first is sequential. It is usually associated with cassette systems, but surprisingly Amsdos (the CPC disk operating system) also works this way. Sequential filing means that records or packets of data can only be read or written to in sequence – one after another. Naturally this method is slow. The other filing system is known as random access. Most disk operating systems use this (including CPM). Essentially random access means you have the ability to move rapidly anywhere on the disk and pick up data in any order.

Minerva's database, with its give away title, uses random access filing. By clever programming Minerva have managed this from Amsdos.

With a 464 or 664 *Random Access* has room for 3,000 records (this is doubled with an expanded machine or a 6128). Each record can have a maximum of 40 fields, and each field can consist of up to 1500 characters – plenty of room for your beetle collection.

Card layouts or formats are totally user-definable and there is no limit to the number you may wish to create. Both 40 and 80 column text may be mixed on the screen at the same time which can look appealing – this also translates to the printer. The screen can be scrolled which means larger-than-screen cards are possible.

Particularly good are the database's string handling and mathematical options. String functions include LEFT$, RIGHT$ and INSTR. While mathematical operations include standard expressions (+ - * /) and more colourful expressions like SIN, COS, LOG and so on.

Sorting and searching are very rapid. A unique record can be found almost instantly from a file containing a thousand or more entries. The result of a search can be kept as a sub-set of the complete file and dealt with independently. Minerva's offering is a very versatile product at a reasonable price. True random access from Amsdos, powerful format facilities and above-average maths operations coupled with a simple menu system make *Random Access* a worthwhile investment.

GOOD NEWS

- Good range of mathematical operations.
- Dual 40 and 80 column display.
- Comprehensive formatting options.

BAD NEWS

- Can be slow to respond to key commands.
- Version tested was not 100% error checked.

Ultrabase

Beebugsoft, £14.95 tape, £17.95 disk

Rather than using virtual memory – disk space – for storing record data, *Ultrabase* keeps everything in the computer's memory. This proves limiting in the amount of information that can be handled. However, this system does have the advantage of fast sorts and searches.

Ultrabase can store around 300 records (15 fields per record, with a maximum of 25 characters per field) at most – that's even on 6128s and expanded 464s; a pity Beebug haven't taken advantage of the extra memory. Still, 300 records are enough for a collection or a mailing list for a small business.

Beebug's database is easy to get to grips with: it constantly prompts you, if you select an incorrect option it will tell you why and (where possible) what to select instead. Before you can start using *Ultrabase* you must supply it with information regarding the size of the file (that is, number of records and number of fields). The more roms and other memory-grabbing peripherals that you have stuck to your computer, the less room you'll have for data storage.

An *Ultrabase* field consist of four parameters: field (number), type, length and title. These options must be supplied to each individual field. That's fine, but it becomes very tiresome if you decide to edit a single option in the field (like type or title) – you can't. Instead every option must be re-entered.

In its favour the database has extremely fast sort and search options. This is due to the information being memory resident; there's no time wasted hunting about a disk for a file or record.

Ultrabase contains a special feature – which Beebug call a fuzzy search – that allows greater power and flexibility when searching. In normal search mode an exact match is found. The fuzzy search permits rough matches to be made. For instance, you could search for Road or Rd.

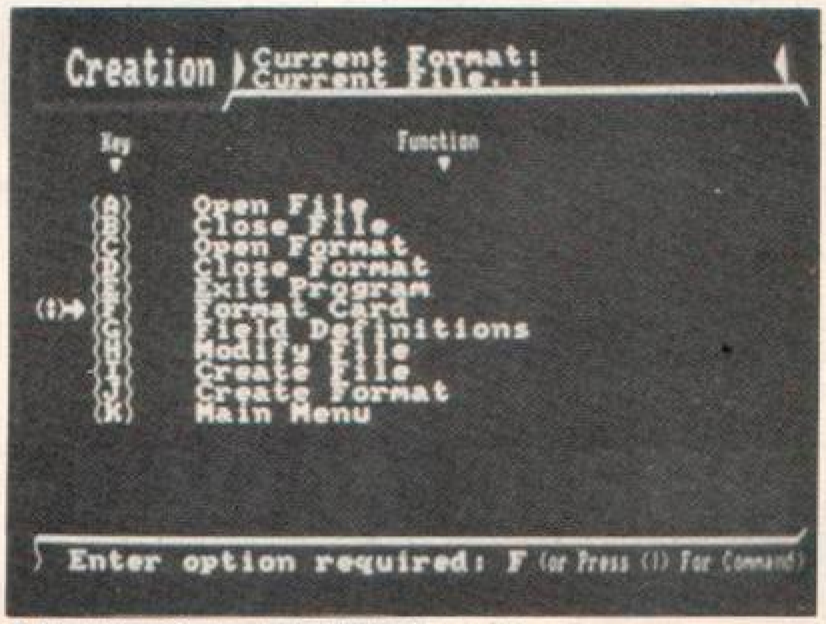
Admittedly *Ultrabase* lacks many of the features found on other databases, but for the price it's good value.

GOOD NEWS

- Fast sort and search.
- Cheap and easy to use.

BAD NEWS

- Limited data space as everything is memory resident.
- Fixed record format.



● Mixed 40 and 80 column text on Ultrabase's main menu.

AtLast Plus

Rational Solutions, £39.95 disk only, CPM plus (6128) only

Eighteen months after it's conception *AtLast* (reviewed issue 18) has been revamped, re-priced and re-badged. The improvements range from a better manual, to larger and more efficient data storage. The price has increased by £10; and the title now includes a *Plus*.



AtLast Plus is the last of the decent CPM-needing databases left on the Amstrad. Its features beat those on packages costing twice as much.

The database uses all the available space on your disk to store information. This means relatively large files can be handled: the manual states a maximum of 32,000 records. However, this target is unlikely to be reached as disk space runs out fast. 1,500 records is about the most you can hope for. Each record can have 20 fields. This is not as restricting as it sounds because each field is further divided into 99 elements. At most, fields and records hold 79 characters.

With standard databases each line of an address must be placed on a new field; alternatively the whole address must be placed on a single line. Neither is satisfactory. *AtLast* overcomes this as each field may be split into elements. This means only one field will be used for the address. And each line of the address is placed in a separate element.

All screen layouts and report formats are user-definable. This is achieved using a built-in word-processor. Data items and explanatory text may be positioned anywhere on the screen.

The differences

Over the last eighteen months *AtLast* has matured into *AtLast Plus*. The modifications and enhancements are numerous. Here's a brief rundown:

- Enhanced single drive operation.
- Improved use of disk space.
- Better instruction manual.
- More powerful browse and edit section.
- Easier installation.

If you own *AtLast* and wish to upgrade to *AtLast Plus* simply send the front cover of the manual and the product's serial number to Rational Solutions (address below). Plus £19.95.

GOOD NEWS

- Data capacity restricted to disk memory.
- Fields can be split into elements.
- Powerful report generator.

BAD NEWS

- Calculated fields still aren't possible.

AtLast Plus is much better than before. It can store and manipulate large amounts of data with ease. Results can be presented equally impressively. The whole package performs well; its only shortcoming is that calculations can't be performed on fields.

Masterfile III

Campbell Systems, £39.95 disk only, 6128 or expanded 464/664

Campbell's database is relational. This doesn't mean it has close ties with other databases, but means you can call up details of a record on one file by referring to a related record on another.



The use of relational files may not seem obvious at first. Take an example, though. If you were keeping an index of books on a *Masterfile* database, you might have five by JRR Tolkien. Each book record would need to have the full author's name against the title. This would mean having the letters "JRR Tolkien" in your file five times. Multiply this by all the other authors whose books number more than one, and you should see you're wasting quite a bit of space.

Masterfile allows you to set up a parent file with all the authors' names on it. Two-character references are used to link the names to child records, on a different file, which have details of all the book titles.

The program can sort a file and search through it using a system of selecting and deselecting records. You can therefore create any sub-set you like by choosing only the records you want to keep on file.

You can keep totals of fields in a file, but you can't perform any other calculations on numeric data. Screen layouts and report formats are put together by selecting options from menus – not as easy as designing a record on screen, but just as effective. A very competent database.

GOOD NEWS

- Supports parent and child files.
- Vast range of screen layouts possible.
- Fast.

BAD NEWS

- Limited arithmetic functions.
- Creating report formats is tricky.

Mini Office II

Database, £14.95 tape, £19.95 disk

If you like the idea of a database, but don't like the thought of laying out so much cash, then Mini Office II is a decent buy. It is basically a collection of business applications including word-processor, spreadsheet and database. Although the database is not up to the standards of the others reviewed on these pages, it is good value for money.

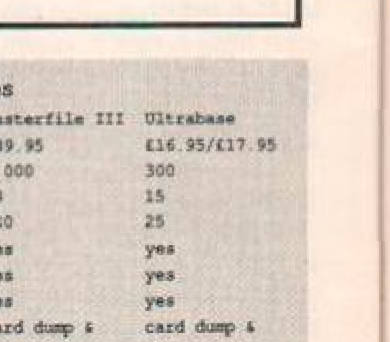


Table of features

	Random Access	AtLast Plus	Masterfile III	Ultrabase
	£29.95	£39.95	£39.95	£16.95/£17.95
Max no. records	6,000	32,000*	1,000	300
Max no. of fields	40	20	50	15
Max field length	1,500	79	240	25
Definable format	yes	yes	yes	yes
Search	yes	yes	yes	yes
Sort	yes	yes	yes	yes
Print facilities	unlimited formats	unlimited formats	card dump & sel. list	card dump & sel. lists
Maths operations	same as Basic	none	totals only	totals only
Special features	mixed 40/80 text	99 elements	relational files	fuzzy search

* Refers to maximum possible; in practice disk space limits this to 1,000

Beebugsoft ☎ 0727 40303
Dolphin place, Holywell Hill, St Albans, Herts, AL1 1EX

Campbell Systems ☎ 0378 77762
7 Station Road, Epping, Essex, CM16 4HA

Database Software ☎ 0625 879940
Europa House, Adlington, Macclesfield, Cheshire, SK10 5NP

Minerva Systems ☎ 0392 37756
69 Sidwell Street, Exeter, Devon, EX4 6PH

Rational Solutions ☎ 056681 511
Carn House, Canworthy Water, Nr Launceston, Cornwall, PL15 8UB

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Ace II or Ace	D3	9.95	6.50
19 Part 1 Boot Camp	D3	9.95	6.75
Mean Streak	D3	9.95	6.75
Maniac Mansion	D3	9.99	6.75
Buggy Boy	D3	9.95	6.75
Rastan	D3	8.95	6.25
Hunt for Red October	D4	14.95	10.50
Airborne Ranger	D5	14.95	10.50
Jackal	D3	9.95	6.75
Zig Zag	D3	9.95	6.75
Gauntlet II or Gauntlet	D3	9.99	6.75
Nigel Mansel's G. Prix	D2	9.99	6.50
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Access

The Comm-plete Rom

Steve Williams investigates a new rom for the modern modem.

Cage Comms Rom

Amster's Cage, £34.50 rom only

Amstrad CPC owners have never been over-spoilt when it comes to the quality of viewdata communications software available. Now, at last, someone has come to our rescue. Dave Gorski and Ian Hoare have produced the *Cage Comms Rom*, designed to put Amstrad owners back into the limelight.

The manual – a 60 page offering – is written in an informal, friendly yet comprehensive style.

The rom can be fitted as a direct replacement to the two Honeysoft roms that are in the Amstrad/PACE RS232 interface (or KDS modem), or it can be fitted into a rom expansion box. Once the rom is running you are presented with the main menu which consists of six options.

```
1) Log-on
2) Carousel
3) Messaging
4) Filing and Templates
5) Printer
6) Configuration
```

Everything you need can be accessed from this "front page". The menu technique, is used throughout the program; its structure is very logical and very easy to follow.

Instead of setting up all the various parameters and preferences, you will require, each time you switch in the rom, these can all be saved to disk. Using a program from the manual these parameters can be loaded and the rom invoked all in one go.

The Concept

The *Cage Comms Rom* is based around a big frame carousel (26 pages on a 464 or 664 and 94 on a 6128) that permits a large number of operations to be carried out on frames, on-line or off-line.

Wherever possible intelligent defaults are automatically used. This means that you don't have to keep remembering technical matters. Just press a designated key and the rom will do all the housekeeping for you.

Carousel menu

The carousel menu is the heart of the program. Once grabbed or created, frames are stored in banks. If you have a 464 then a total of 26 frames may be stored. 6128 machines have enough memory for 94. Having this storage facility means pages can be manipulated as you wish.

If you're "on line" and you see a frame you want, simply press the COPY key and it's (the frame) in the bag, or rather the carousel. The frame is automatically stacked on the next available carousel location. After you have logged-off you can elect to view the carousel frames you have grabbed. Pages are turned forwards or backwards via the right and left cursor keys.

Off-line editing is very well catered for. Single key-presses are used for the creation of coloured graphics, backgrounds and inks. The editing package includes a pixel editor. When switched on the six pixels under the cursor can be toggled on or off. It sounds fiddley, but saves endless reference to a viewdata character set.

Having composed your masterpiece(s) offline, chances are you might want someone else to see them? Unlike other viewdata packages, the Cage can help you with this problem. Sending a full frame back upline to the host takes a little under two minutes. A great saving when you think how much it would have cost you to do it all on-line

Telesoftware

The *Cage Rom* has the ability to download both CET and compacted types of telesoftware fully automatically.

The log-on menu allows you to set up phone directories, establish log-on and log-off procedures (if you have an intelligent modem), etc etc. The *Cage* can store directories onto disk in an encrypted form. This means that a password will be needed before the directory is unlocked. This keeps all your valuable account numbers safe from prying eyes.



When you are looking through pages of frames and get the urge to view something else, simply press the TAB key and any letter. The current frame is now marked, just like a bookmark marks a page. After you have finished whatever it was that distracted you, press TAB and the frame-tag letter and the *Cage* automatically returns you to the frame you were looking at previously. In addition, before logging-on you can set up the frame-tags as keywords to take you to your favourite pages. Tag strings can be alphanumeric. This means, for example, by pressing a certain key combination you will be taken to the Amsters Cage on Prestel.



The tagging feature saves a lot of typing and is very easy to get used to. So much that it makes me very lazy. I really miss this feature when using other comms set-ups now.

The deeper dungeons

This is the comms package that others will be measured by. There are rumblings that Amstrad are having a long hard look at it and they could adopt it for the Amstrad RS232 interface by Pace.

I am still delving around the *Cage Comms Rom*'s darker corners and finding out even more things that it is capable of doing. I haven't yet found the tea-making facility, but I suspect that it has one. I suspect that I shall be finding new delights for quite some time to come.

Over the last few years I have seen and used a lot of different combinations of machines and comms software (business and home computers alike). On the basis of what I have seen available, I have no hesitation in recommending the *Cage* for any CPC comms user.

Amster's Cage ☎ 01 9658957
46 Connaught Road, London, NW10 9AG

GOOD NEWS	BAD NEWS
■ The best comms software for the CPC. ■ Handy tagging feature saves lots of key presses. ■ Off-line editing of frames possible.	■ Pricey, considering it doesn't include the rom board.

Taking Stock

Clutching his Filofax, bona fide yuppie Pat McDonald tries his hand at stocks and shares

Stockmarket

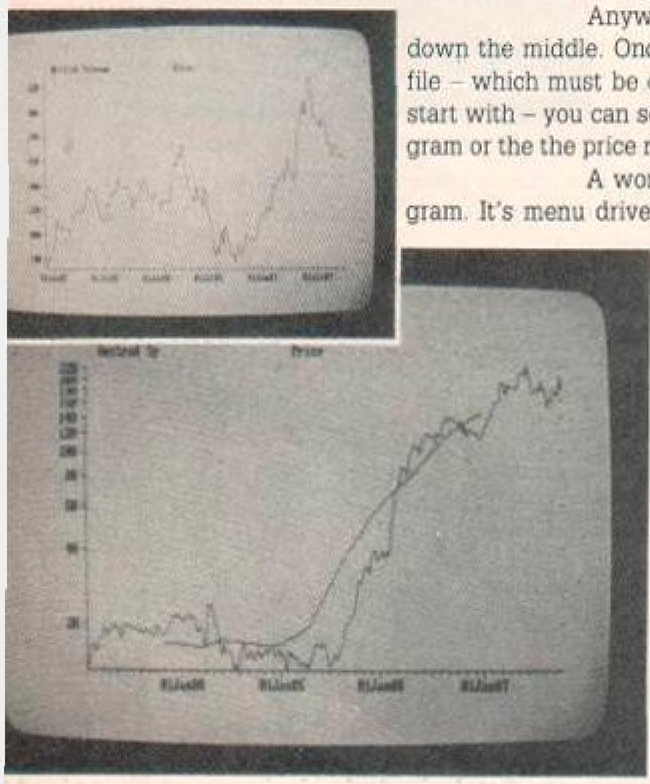
Meridian Software, £29.95 disk only

There are four main types of business software. These are the word processor, the spreadsheet, the database and the accounts package. Now for something different: *Stockmarket* from Meridian Software, which is a cunning mixture of the last three breeds of software, plus a little extra.

Stockmarket is a sophisticated program designed to record your own personal folio of stocks, shares, government bonds, unit trusts, and just about anything else. It can also plot the rise and fall of up to twelve share prices (titles) at once over a five year period. Admittedly in the light of the current financial chaos it may well be of purely academic use... it's not for me to comment further on this, though.

Anyway, *Stockmarket* is split down the middle. Once you have loaded in a data file – which must be on a separate disk, except to start with – you can select either the accounts program or the the price recorder.

A word about the style of the program. It's menu driven, but roughly 95 percent of your entry can be selected using the cursor keys alone. This makes for quick, error free input. Three levels of menu are provided; these are main, option and question. Generally, to go through a particular process takes more steps, but the steps are still simple. There's also a panic button – hit the close square bracket to return to a former menu.



Amstrad before the recent stockmarket crash.

From the main menu you can access the following:

- **Update**: this allows access to share prices, present yields on shares and also P/E ratios, which can be left to be recalculated by the computer.
- **List Account**: depending on whether you want to see the results on your screen or printer, this lists either your current folio, your historic folio – where every transaction is taken into account, on shares that were sold long ago – your present dividend payments, and any cash accounts you may have set up. The program can also record your method of payment; Access or cheque, that is.
- **Buy and Sell**: apart from the obvious, this enables you to edit sales and purchases, merge two share blocks together (if you increased your stake in a company) and delete a share block, which isn't a smart inclusion by any stretch of the imagination.
- **Dividends**: these can be entered and edited if incorrect.
- **Cash Transactions**: from here, you can manipulate your various cash accounts, Access card, bank account, post office etc.
- **Housekeeping**: this lets you change the VAT and stamp duty, as well as indicating a printer on-line or changing the screen colours. You can also turn off the default values of the various menus.
- **Deal Costs**: yes, stockbrokers make money on deals too. The program needs to know how much they charge for handling a particular share.

City slicker

Right, now for some raw info. Accounts can handle up to 50 share blocks per folio, and can take scrips, rights and part paid shares into account. It is one smart cookie.

The prices program is designed to be able to make a study of various companies' share prices. Up to twelve different titles can be compared, and up to 260 dates can be stored, giving you five years storage at one week intervals.

From its main menu you can get to:

- **Enter/Edit Prices:** this is the main entry point for share prices. You can type in the date and price, and amending them is very easy.
- **Enter/Edit Titles**: enter and amend the actual share titles, for instance, "AMSTRAD 5P". The price ceiling – which can be 64, 640, 6400 or 64000 – may also be edited.
- **List Prices**: gives a copy of all the prices and dates entered so far, and which title they belong to.
- **Prices**: you can select which title you want a list of prices and dates for.
- **Plot Prices**: the big one! Once you have entered your list of prices and dates for a particular title, the computer will print a pretty graph. You can select either logarithmic or linear scales – its best to go for log, since any big gains at high prices are in proportion. You can also have an average drawn on the graph, and a hard copy produced.
- **Adjustments**: by use of this option, you can input scrip (which is a free issue of shares to existing shareholders to stop share prices becoming excessively high), rights (issue of new shares to existing shareholders to raise capital) and part paid issues. You can also add a multiplier to prices.
- **Housekeeping**: very similar to the accounts program housekeeping.
- **Save and Exit**: saves your particular database to disk.
- **Cont/Restart/Stop**: you can continue with the pricing program, go to the accounts program or bomb out to Amsdos.

All the on-screen presentation is in 80 column mode and has a straightforward, no-nonsense look about it. The program has a professional feel about it. Unfortunately it is let down by a few fairly minor problems. The program appears to me to be written totally in Basic. The fact is almost invisible, except that if you try to print without having a printer, the program locks up – the sort of thing a jumpblock call could have gotten round. Also, the program has no in-built copy routine, you will have to resort either to *Tas-copy* or *Utopia*.

The manual takes you through the steps of the program quite gently, but doesn't explain a lot. You can spend a long time before you understand everything in it. Personally, I put this down to complexity of the program subject rather than the manual being badly written. On the other hand, a complete novice at computing might have a lot of trouble getting *Stockmarket* to behave.

I think that *Stockmarket*'s real market is the small scale, long term investor; also the person who wants to learn more about investments. And finally, as an educational tool for letting people indulge in stocks and shares without the danger of losing or the success of gaining. I believe that's where *Stockmarket*'s real potential lies – with the aid of a suitable textbook, of course.

Meridian Software ☎ 01 8507057
38 Balcaskie Road, London, SE9 1HQ

GOOD NEWS	BAD NEWS
■ Very easy to input data and amend it. ■ Of genuine use, as a home, business and education tool. ■ Well produced – has a good feel to it.	■ Subject is not the easiest to grasp. ■ Another program needed to make a copy of the graphs.

Disk Transfer

Pat McDonald tests a new tape-to-disk program and raises the important issue of piracy

Speedtrans Plus

Goldmark Systems, £12.99 disk only, 128k machines only

Goldmark systems have long been renowned for their tape to disk backup service. *Speedtrans* handles a fair proportion of the "DJL Speedlock" system of protection. Can its successor do any better?

Thorny issue

Tape-to-disk transfer routines have long been a bone of contention on the CPC's. Users cry out for them, mostly for the legitimate purpose of backing up tape software. For this reason we continue to cover these devices, both hardware and software. However, we'd be interested to hear from all readers as to whether you think we ought to continue this policy, when there is the potential for them to be misused for illegal purposes. **BW**

Yes! Oh, you want more... Well, using the thing is simplicity itself. Just run the program, insert a blank disk into the drive. When you have a tape to be transferred in the cassette recorder, press any key on the keyboard. From now on, *Speedtrans Plus* works automatically. It loads the Speedlock'ed loading picture and program, then saves them to disk. It tells you what filename the game is being saved under, and saves an autorun file as well. Run it, and your game comes off the disk at the speed of a – well, something pretty quick. All the files are compacted down to their minimum size. *Speedtrans Plus* will only work on 6128s or expanded 464/664 machines. Goldmark confidently predict it will handle about 83 different games.

To a more important aspect of this product – its potential use. Many people claim that these sort of programs have a clearly defined task – to make disk backup copies of someone's tape program. Which is what a proportion of people will use it for. But, stated simply, these programs bypass protection systems. After that, the programs are susceptible to misuse by pirates – software thieves. I don't believe that most commercial pirates use this method, but the possibility exists.

Pirates have too easy a life as it is, and the present state of the industry is so apathetic that they will continue to get away with their theft. I would like to see more hardware protection. Amstrad could easily incorporate an electronic serial number into every computer manufactured. Games would have to be configured and registered with that serial number, like a lot of business software at present.

The whole point of this hypothetical exercise is that, if a game was found on the wrong machine, or a piece of software was written to get round the protection, whoever had the game or wrote the software could be identified, and then prosecuted. Now, under the above system, *Multiface II* – blackbox copiers – would replace programs such as *Speedtrans Plus*. They are cheaper in the long run, and can't easily be used to pirate games.

Goldmark Systems ☎ 07072 71529
51 Comet Road, Hatfield, Herts, AL10 0SY

GOOD NEWS	BAD NEWS
■ Program does everything it says it can. ■ It's hard to make a mistake when using it.	■ Can be used for small scale piracy. ■ It's not cheap considering the alternatives.

Camel on the Menu

Richard Monteiro gets his ladder and chamois out and peers into a window operating system

Wops

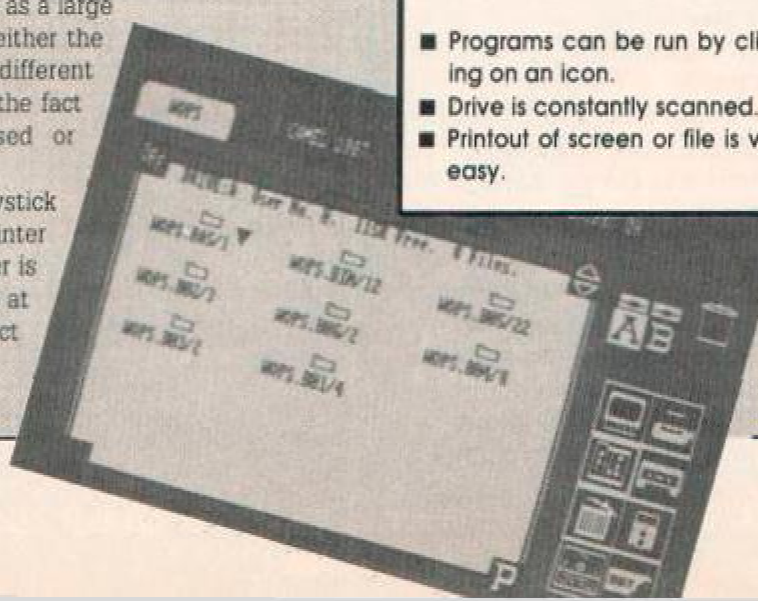
Camel Micros,£14.95 disc only

Back in issue 24 we reviewed a product from Advanced Memory Systems, *Max*, which is based on WIMP systems. Camel Micros, who have been quiet on the CPC front for the past 18 months, have released a similar package.

The acronym WIMP stands for windows, icons, mouse and pointer. The mouse is an input device and is used in preference to the keyboard or joystick (*Wops* doesn't work with a mouse at present, however, this option is promised for later). A pointer is an object on the computer screen whose movements correspond to those of the mouse. It is used to point at objects and select options. Icons are the objects or small pictures from which menus spring. Windows hold menus or options.

Wops (windows operating system) replaces Amsdos. It is basically a disk management utility in the same vein as *Discology* and *Oddjob*. *Wops* presents itself as a large window and a cluster of icons. Sadly neither the window nor the icons can be moved to different locations on the screen. Even worse is the fact that the window cannot be increased or decreased in size.

By using the arrow keys or a joystick you can move a flickery, intelligent pointer across the *Wops* screen. Once the pointer is resting on an icon of your choice, a stab at the fire button or return key will select that particular option.



The disk drive is constantly checked to see what is present. For instance, if you remove a disk and insert another, *Wops* will immediately show the directory of the new disk. *Wops* shows files as icons with the name of the file underneath. These files may be run simply by clicking on the file-icon.

From the panel of eight icons you can elect to alter screen colours, print the contents of files, copy files, copy disks, format disks, edit sectors, rename files, erase files and unerase files. The list doesn't end there. Files may be saved to either disk or cassette, external or bar commands may be accessed, drive number is selectable and extra memory may be used (assuming you have it).

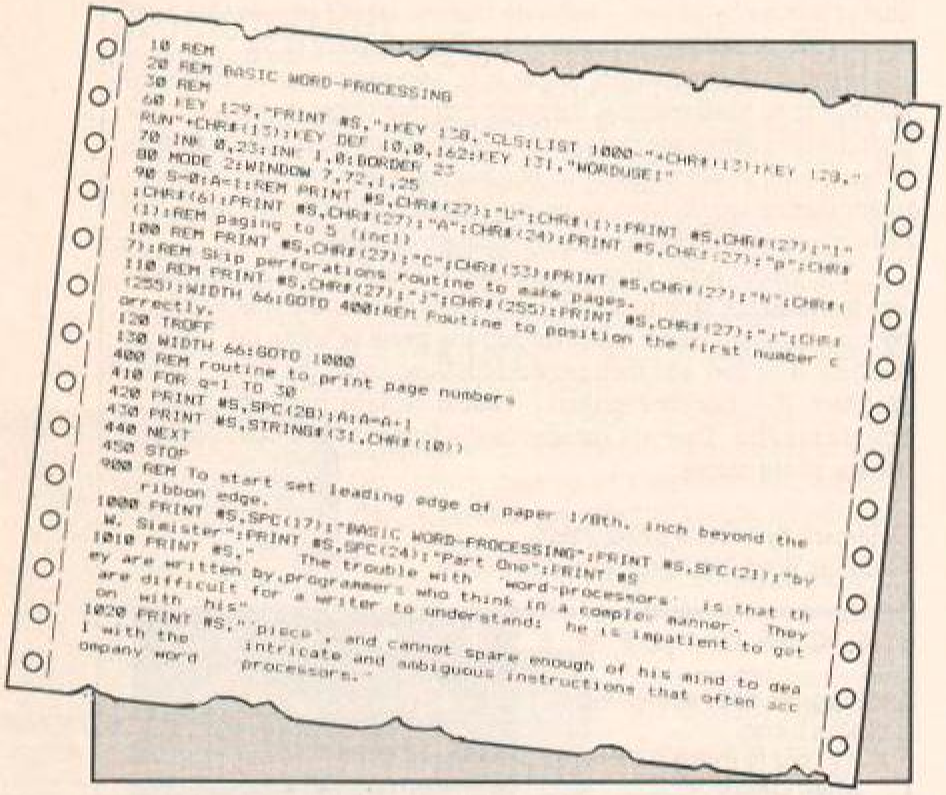
The idea of a WIMP environment is to make it simple for the user to choose options and get from one menu to another with the minimum of fuss. *Wops* fails to do this. Achieving certain tasks can be very confusing – the manual is less than helpful. *Wops* has good features: the functions work correctly and there are some novel touches (like the constant scanning of the drive and being able to run a file simply by clicking on an icon). However, if *Wops* is your first encounter of a WIMP-like system, you'll be disappointed.

GOOD NEWS	BAD NEWS
■ Programs can be run by clicking on an icon. ■ Drive is constantly scanned. ■ Printout of screen or file is very easy.	■ Confusing layout. ■ Too much keyboard input required. ■ Poor, unhelpful manual.

Camel Micros ☎ 0392 211892
Wellpark, Willeys Ave, Exeter, EX2 8BE

Basic Word-Processing:4

The fourth in a six part series by Bill Simister on how to create and use a word-processor entirely in Basic.



```
10 REM
20 REM BASIC WORD-PROCESSING
30 REM
60 KEY 129,"PRINT #S,":KEY 130,"CLS:LIST 1000-"+CHR$(13):KEY 129,"
RUN"+CHR$(13):KEY DEF 10,0,162:KEY 131,"WORDUSE1"
70 INK 0,23:INK 1,0:BORDER 23
80 MODE 2:WINDOW 7,72,1,25
90 S=0:A=1:REM PRINT #S,CHR$(27);"L";CHR$(1):PRINT #S,CHR$(27);"1"
;CHR$(6):PRINT #S,CHR$(27);"A";CHR$(24):PRINT #S,CHR$(27);"p";CHR$
(1):REM paging to 5 (incl)
100 REM PRINT #S,CHR$(27);"C";CHR$(33):PRINT #S,CHR$(27);"N";CHR$(
7):REM Skip perforations routine to make pages.
110 REM PRINT #S,CHR$(27);"j";CHR$(255):PRINT #S,CHR$(27);"j";CHR$
(255):WIDTH 66:GOTO 400:REM Routine to position the first number c
orrectly.
120 TROFF
130 WIDTH 66:GOTO 1000
400 REM routine to print page numbers
410 FOR Q=1 TO 30
420 PRINT #S,SPC(28);A:A=A+1
430 PRINT #S,STRING$(31,CHR$(10))
440 NEXT
450 STOP
900 REM To start set leading edge of paper 1/8th. inch beyond the
    ribbon edge.
1000 PRINT #S,SPC(17);"BASIC WORD-PROCESSING":PRINT #S,SPC(21);"by
 W. Simister":PRINT #S,SPC(24);"Part One":PRINT #S
1010 PRINT #S,"     The trouble with   'word-processors'  is that th
ey are written by programmers who think in a complex manner.  They
 are difficult for a writer to understand:  he is impatient to get
 on  with  his"
1020 PRINT #S,"'piece', and cannot spare enough of his mind to dea
l with the          intricate and ambiguous instructions that often acc
ompany word      processors."
```

In part four we continue explaining the printer commands of the Basic Word Control program. We start in line 100 with a facility of the DMP 2000 that enables it to skip the perforations in the paper, with an accurate positioning of the text anywhere.

Perforation skipping

`PRINT #S,CHR$(27);"C";CHR$(33)` is the first part of the command after the REM in line 100. The "C" triggers it, and `CHR$(33)` stipulates the number of lines – provided we are using 24 in the "A" command of line 90, explained in part 3. If that "A" command was 12, then this "C" command must be 66. These two commands are related.

To explain further: double spacing ("A" and 24) gives 33 lines to the page, hence "C" and 33; single spacing ("A" and 12) gives 66 lines to the page, therefore, "C" and 66.

With just this "C" command, the text would reach the bottom of the page, so another command is used to correct this.

`PRINT S#,CHR$(27);"N";CHR$(7)` takes 7 lines from the bottom of each page. "N" triggers that command, and `CHR$(7)` tells it how many lines to deduct. 7 from 33 gives 26 lines to each page. Some people prefer 25 lines; in that case they should use 8 instead of 7 in that "N" command.

Paper positioning

In line 110, after the REM, are two repetitions of the same command: `PRINT #S,CHR$(27);"j";CHR$(255)`. They are used to make the paper rewind a little before printing. They are once only commands, so using each twice means that the printer goes forward one line space, then back about two line spaces – twice. When starting to put the paper in its proper position to receive the first number it does this surprising dance, which is startling when heard for the first time. The "j" triggers it off, and the 255 gives the distance back it goes – based on a measure that says 216 equals one inch. Any number from 0 to 255 can be used, but none higher, which is why it is used twice in this instance.

It should be explained here that each of the many `PRINT #S`, commands in the various orders cause the printer to advance one line space. In this line 110 is a command that moves it back about two line spaces before printing the number. I repeat, it is a once only order, so it only happens for the first page, thereafter the program attends to the spacing, as described when dealing with lines 400 to 440.

Width way now

At the end of line 110 are two orders similar to the ones in line 130. `WIDTH 66` – which is an order to the printer ensuring that the width remains constant, and `GOTO 400`. The one at line 130 is `WIDTH 66: GOTO 1000`, and it could well be placed at the end of line 100 before the final REM, instead of in a separate line – except that when lines 90, 100, and 110 have their REMS in place it would not be available to direct the computer to the screen printing the text. Lines 100 and 110 are never used at the same time, but each together with line 90. That is another reason why all three lines have REM before them when text is being printed on the screen. The REMs at the ends of lines 100 and 110 are there for your own information only.

When you want to use the printer, line 90 has its S=0 changed to S=8, and the REM after A=1 is removed. That brings the line 90 printer commands into use. At the same time the first REM in line 100 is removed, so that it can separate the pages.

When the pages are printed they are cut off and re-threaded, and the REM is placed back at the beginning of line 100. Then the line 110 has its first REM removed, so that the numbering can be done.

The main event

All the lines, 10 to 1000, constitute the program itself, and from now on I shall be dealing with your use of that. It is advisable to keep a copy of the program on a separate disk or cassette. I have done that although I invariably use the last chapter I worked on to start the next one, deleting lines 1010 on, then altering the title and lines 20, 60 and 1000 as well as the variable A in line 90 to give the first page number in the new chapter.

The first matter to deal with is the method of EDITing. I use the Copy Cursor method described on page F2.8 of the Manual. If you have got used to a different method, then stick to it, it never pays to change habits too much. With the Copy Cursor method it is easy to slice into a program line to start a new para, and it has other merits too.

For your practice it will be best for you to use the copy I give here. The title is: TROUBLE WITH VIKING so the lines in the REM heading must be changed. Pull down line 20 by the copy cursor method, which is fully described on page F2.8 in the 464 manual.

Following the method there outlined change the BASIC WORD-PROCESSING to TROUBLE WITH VIKING.

That gives the REM heading a tidy start. Now bring down line 60, and alter the final command so that it reads: `KEY 131, "VIKING1"`

The next line to alter is 1000. There are three sections to this: the title, the name of the writer, and the chapter number. These are each enclosed in " ". Alter each one as you come to it using the Copy Cursor method. That will make the line into: `PRINT #S,SPC(19);"TROUBLE WITH VIKING":PRINT#S,SPC(21); "by BILL BLOGGS":PRINT #S ,SPC(24); "Chapter one":PRINT #S`

Note that the final `'PRINT #S'` has had its comma deleted. As it is, it will print a blank line between chapter number and the first line of text. When RUN this line will give:

```
TROUBLE WITH VIKING

   BY BILL BLOGGS

      Chapter one
```

It will be seen that the second line (name) needs a space after 'by', whereas Chapter One needs a space taken from in front of it. Do this by bringing down line 1000 again, inserting the space after 'by', and changing the `SPC(24)` to `SPC(23)`. It should then look like this:

```
TROUBLE WITH VIKING

   BY  BILL BLOGGS

     Chapter One
```



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ACTION TEST

Original concepts come to the fore again this month, proving there's always someone ready to go against the tide of licences.

Deflektor **is the first game to come out of the tie-up between Vortex and Gremlin. It features mind warping puzzles involving lasers and all sorts of optical devices.**

Get Dexter II **looks set to capitalise on its predecessors success. Packed with new features and missions for Dexter and his faithful podocephalus sidekick.**

The arcade conversions have a mixed month: a nice job has been made of *Bubble Bobble*, but *Out Run* gets a decidedly cool reception.

All this plus *Tetris*, *Mah-Jong* and much, much more!

INTERNATIONAL KARATE +

System 3/Activision, £9.99 cass, £14.99 disk, joystick or keys

According to the adverts for this game I'm going to end up flat on my back. The reason is simple I'm going to call it a sequel to *International Karate*. *IK* was reviewed back in issue 13 when everyone was beginning to get a little tired with combat games. If anything combat games are getting more and more boring, but companies keep on churning them out.

The scenario is non-existent, all you need to know is which way to move the joystick in order to deliver the appropriate blow to your opponent. The differences between this and *IK* are three fighters on screen at a time, some new moves and much improved graphics. It is in fact a completely new game by different programmers.

SECOND OPINION

This is, without doubt, the best martial arts game around – and I'm bored with it. Two years ago it would have been state-of-the-art, but today it's just run-of-the-mill. Three fighters at once and slick animation give it a boost but it still won't hold you for long.
BW

GREEN SCREEN VIEW

The red and blue fighters do look similar, butyou can still tell them apart.

There are two stages to the game: combat rounds and ball dodging rounds. During the combat round there are three fighters on the screen rather than two. The extra opponent makes the game more difficult because you have to watch two fighters at a time. The fighter that finishes the 30 second combat rounds in third place is out of the game. Computer opponents always stay in the game, but they are encouraged to improve by the judge when he appears. In the two player game though the two humans could gang up on the computer opponent so that they stay in the game longer.

As with nearly all combat games you select the move that you want to do by a combination of the fire button and eight joystick directions. The more common moves are accessed without the fire button being pressed and some of the more elaborate moves with it pressed.



A backflip has been added and this is a nice smooth manoeuvre that takes you away from the action.

The ball doding part of the game is a bonus stage that appears after every two combat rounds. In this you stand in the centre of the screen with a small shield in your hand. Balls bounce on the screen at different heights and you must deflect them with the shield. The speed of the balls increases with each one that you deflect, until you are hit by a ball. You then you leave the bonus stage and carry on with the fighting. Flashing balls appear sometimes and they have an unpredictable bounce which changes each time the ball touches the ground. The number of flashing balls increases as you progress through the game.

There are a variety of options that you can use regarding the sound in the game. You can have a continuous tune playing, just sound effects, both, or neither. Since the tune is not exactly the best piece of music that's ever been programmed, you'll probably play the game with just sound effects. The spot effects don't vary much, but since you're only beating your opponent to death with fists and feet, there are few effects that can be used. The backdrops are nice and oriental in design with good use of colour. The animation in this is probably the best for any combat game yet – nice flowing moves from one position to another. The backflip in particular looks good.

If you want another combat game then this is the best. The graphics look good and the wide variety of moves make the game challenging. Unfortunately the ball dodging stage isn't very exciting and after a few goes you'll be spending most of the time on this stage rather than the more interesting combat stage. You could just exit this stage by not deflecting the ball, but a lot of points can be scored and points are needed to progress through the dans. **GBH**

FIRST DAY TARGET SCORE
20,000 points

The Verdict

GRAPHICS 84%
- Smooth movement between positions.
- Colourful backdrops add to the games look.

SONICS 58%
- Spot effects are good.
- Not the best tune I've heard.

GRAB FACTOR 71%
- Three fighters at a time make it fun at first.
- Action offers little new to games that have gone before.

STAYING POWER 59%
- The computer opponents get tougher as you get further.
- Ball dodging gets tedious after a while.

AA RATING 68%
- One of the best combat games.
- Clapped out game concept.

DEFLEKTOR

Vortex/Gremlin, £9.99 cass, £14.99 disk, joystick or keys

Vortex are famous for games like *Highway Encounter* and *Alien Highway*, both programmed by Costa Panayi. So his latest venture, into the world of laser optics, was loaded with much interest. Particularly since this is the first Vortex title since they linked up with Gremlin.

The object of the game couldn't be simpler, all you have to do is destroy all the cells dotted around the screen with a laser, and then line the beam up on a receiver. The screens are made up of a mass of mirrors and obstacles that you have to guide the laser around, using a cursor to alter the position of mirrors that deflect the beam.

Completing the objective is made more difficult because of the various objects and their positioning on the screen. Cells are sometimes in what look to be inaccessible places and there are the gremlins that wander around getting on your nerves by moving your carefully positioned mirrors.

On the screen there is the playing area and a status panel. The playing area shows the position of your cursor, the laser beam and all of the objects that make up the level. The status panel shows the level, number of lives, laser energy, overload and score. You have three lives to complete each screen with and so you'll always get three chances at each level, even if you completed the previous one on your last life.

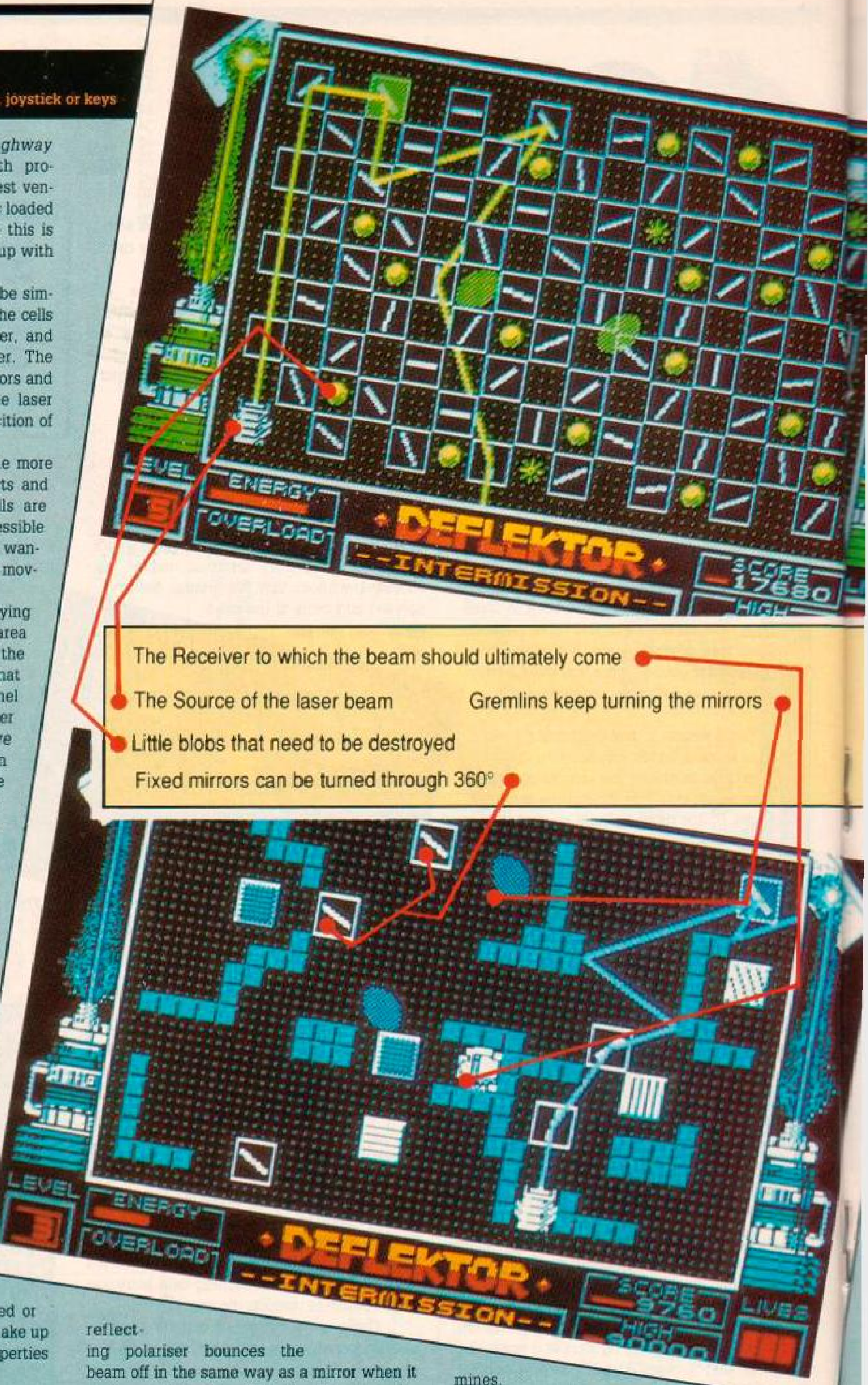
The laser energy is used up as time passes and if this runs out you lose a life. If the beam is too long, hits a mine or is reflected back along the path into the laser source then an overload situation occurs. When the overload meter is filled you lose a life. If you move the beam in time the overload will fall gradually back to zero.

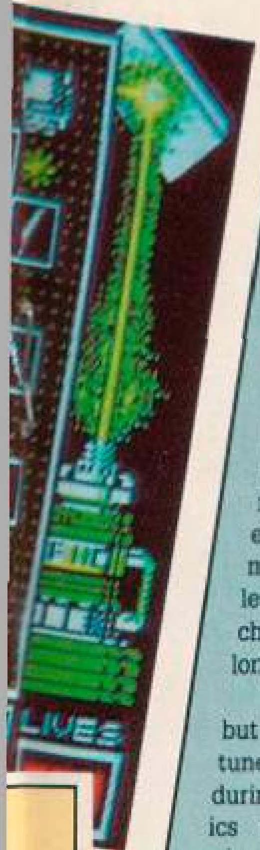
There are several types of object that affect the beam in different ways: reflectors, refractors, mirrors, absorbers, polarisers and fibre optics. There are two types of mirrors: rotating and stationary. The stationary mirrors can have their angle turned through 360° and the rotating mirror sends the beam out in lighthouse fashion. The rotating mirror can be stopped or rotated faster if necessary. Reflectors make up "walls" on screen and have similar properties to mirrors, but they can't be moved.

The beam is sent in random directions when it hits a refractor and often this is the only way to get some of the cells. If the beam strikes an absorber it stops there, naturally enough. There are two types of polarisers: reflectors and absorbers, both rotate continuously and allow the beam to pass through when the polariser is lined up correctly. The reflecting polariser bounces the beam off in the same way as a mirror when it can't pass through and the absorber stops the beam like the absorbing blocks. Pairs of fibre optics appear on some screens and when the beam enters one it leaves through the other travelling in the same direction as it entered the first.

Two other things appear on screen and neither is any good for you: gremlins and mines.

Gremlins are interfering little busy bodies who wander around the screen turning mirrors around and generally being a nuisance. Just when you've got a long complicated route set up a gremlin will come along and move a mirror, possibly causing a fatal catastrophe. You can temporarily destroy them by moving the cursor over them and fir-







MASTER GAME

ing. Mines on the other hand don't move, but are more deadly because if the laser hits them it overloads very quickly.

Initially the game seems easy, but the time limit soon becomes a serious problem with cells still on screen and the laser power diminishing rapidly. Higher levels have more complex arrangements of objects and Gremlins appear in larger numbers. There's a demo mode that shows you all 60 levels and some of them are very mean indeed. A practice mode lets you try three levels with no chance of overload and a much longer time to complete the level.

Sound is simple and limited, but it's good enough and a great tune plays on the title screen or during the intermission. The graphics are easily recognisable and colourful, the sort that you'd expect from Costa. Colour is not used much with only a few colours on screen at any one time, the overall impression is a little dull since the backgrounds are generally black.

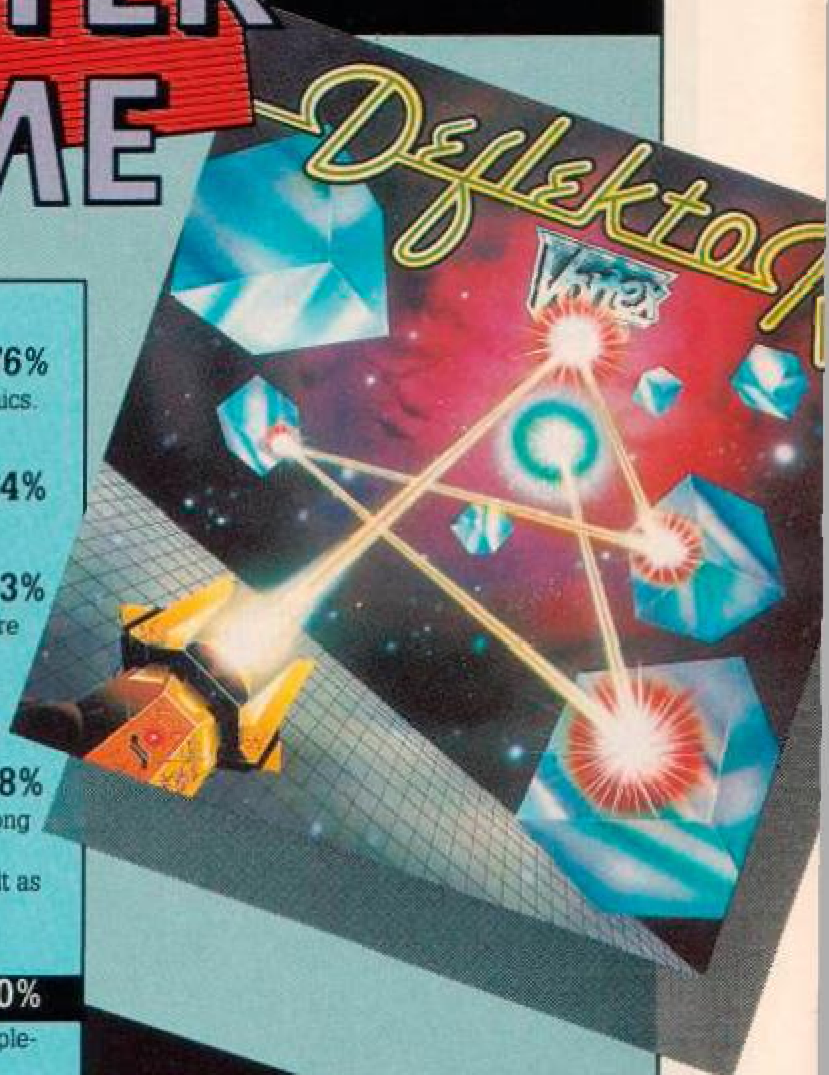
Frustrating and addictive are two words that come to mind with this game. It's frustrating when you run out of time with the beam just one turn away from the receiver and addictive because you'll be sure that you can do it next game. It may not appeal to everyone, but it's definitely worth a look at, it's even vaguely educational with it teaching you the principles of optics. **GBH**

FIRST DAY TARGET SCORE
Complete 10 levels.

SECOND OPINION

It's great to see that Vortex and Costa Panayi have lost none of their flair and originality since teaming up with Gremlin. The game is a superb test of fast, logical thought. It has the same sort of mental difficulties attached as planning a series of moves in a chess game. However, unlike chess the results are immediate and spectacular. The levels do get a bit samey but the addiction doesn't stop. You'll end up like the features in the game – totally absorbed, with your vision polarized on the screen. **BW**

GREEN SCREEN VIEW
It's duller, but just as playable.



The Verdict

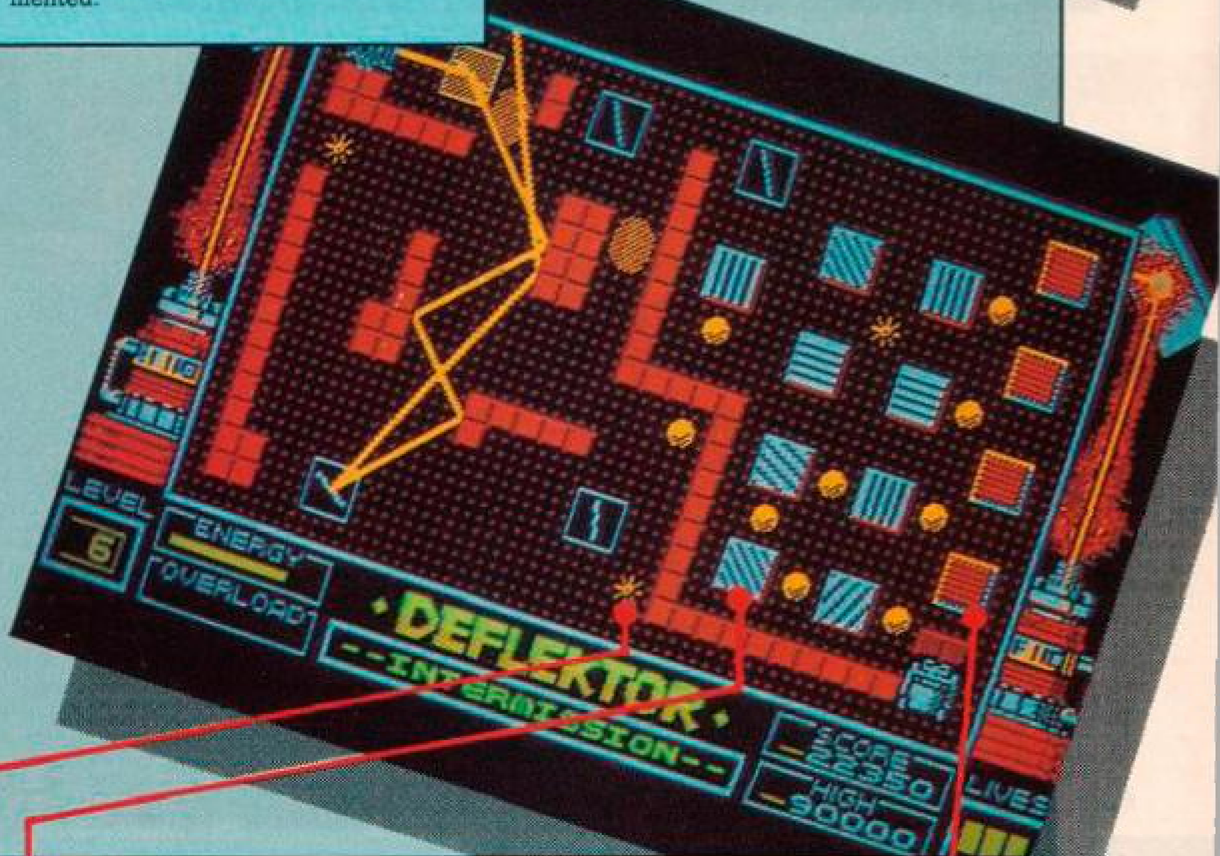
GRAPHICS 76%
- Clear and easily recognisable graphics.
- ■ Not that much colour.

SONICS 64%
- Great title tune.

GRAB FACTOR 93%
- You'll just **have** to complete one more level.
- Masterfully absorbing need for fast, strategic thought.

STAYING POWER 88%
- 60 levels will keep you going for a long time.
- Problems get more and more difficult as you progress.

***AA* RATING** 90%
- An original concept, wonderfully implemented.



A reflecting polariser either lets light through or reflects it back

Refractors send the beam off in random directions

Mines make the laser overload

GET DEXTER II

Infogrames/Ere, £9.95 cass, £14.95 disk, joystick or keys

AA RAVE

Get Dexter was the *Mastergame* game back in issue eight and the sequel has made it across the channel. Dexter the android has a new mission on the planet of Kef and his podocephalus friend Scooter has again joined him.

Kef is inhabited by two races, the Stiffiens and the Swapis who had until recently been on good terms. Amongst the Stiffiens a new religious sect has developed and things have begun to deteriorate, with the Swapis being the first victims. The sect is centered around a mysterious building called Antines and your task is to discover it's secret. Entry into Antines is through a secret passage that is known only to the Swapis. Since you're a stranger on their world they have little confidence in your abilities to solve the mystery and so they have decided to test you before they'll let you into Antines.

Three tasks have been set for you, one in each of three buildings. A plaque on the wall of the building tells you what the task is and then all you have to do is complete it. The three tasks can be done in any order, so you can work out how to do each of them before going for the whole game.

In *Get Dexter* you wandered around a 3D isometric complex solving problems and using the various objects littered about. The same style of game has been used, but there are some differences. The one that stands out the most is the way that everyone on Kef can move from location to location. Most of the games of this type restrict characters to one room and this is the first one that I know of where that restriction does not apply.

Many objects that you find can be picked up, dropped or thrown. Some of the heavier objects like book cases and tables can't be carried, but they can be moved around. This often lets you reach a doorway or something else that you may need. Don't jump on everything that you see because swivel chairs send you spinning to the floor and your batteries take a power loss. Run out of energy and you're doomed. Fortunately you can recharge your batteries by plugging your self into the mains supply.



Bright and colourful vegetation covers the planet

In *Get Dexter*, Scooter was little more than a pest, only being useful occasionally, in the sequel however he is more helpful. If you whistle him then he will make his way towards you and you can tell him what object to go and fetch. Ever willing to please he hops off and

SECOND OPINION

The original game was a big step for 3D arcade adventures. The sequel isn't as innovative but it's still full of the sort of special touches that made the original so enjoyable. The graphics are exceptional again – why can't more software houses manage this sort of quality? This one is really going to keep you busy for a long while. It's a tough game to crack but it's so easy to get started, explore and perform some of the more basic tasks. Super stuff. **BW**

GREEN SCREEN VIEW

It doesn't look half as good in green, but it's playable.









will eventually turn up with the object balanced delicately on his head, and then drop it at your feet.

There are basically three sorts of being on the planet: animals, Swapis, and Stiffiens. The animals and Stiffiens drain your energy when you come into contact with them, the Swapis on the other hand are more friendly. They enjoy conversing with you and if you have an object with you they will trade the item that they're carrying for the one that you have. One object that you'll find useful is the mousetrap that kills off the animal life when it steps on the trap. Dynamite can also be thrown to blow up all robots and animals in the vicinity. A laser gun can be used to kill too, if you have it with you.



The eagle eyed will notice that the screen shots are taken from the French version of the game, where it's called *L'Ange de Cristal*

Once all three tasks are completed you will be lead into Antines where the final stage of your mission lies. Discover the secret of the building and you can return home a hero with the knowledge of a job well done.

No tune plays during the game, but there is a great tune before you begin your mission. The sound effects are good and the whistle for Scooter is nicely done. The graphics are very similar to those found in the original with the improvements being that you can see a short way into the adjacent locations. Colour is used very well with a lot of detail used in the graphics. The graphics get a little confused sometimes when you pass behind the scenery.

Cassette and disk versions of the game are slightly different with the disk game being a little larger. The extra space on disk has been used to add a few more rooms and sprites, but the cassette version plays just as well.

The gameplay has been improved with Scooter being much more use. Comparison with the original is inevitable and you can do that for yourself because you get *Get Dexter* supplied free with the game. You'll spend many long hours puzzling away at this one, and it will all be time well spent. **GBH**

The Verdict

GRAPHICS 93%
- Nicely animated and very colourful sprites.
- Detailed, colourful backgrounds.

SONICS 71%
- Jolly title tune.
- The spot effects are good too.

GRAB FACTOR 86%
- Puzzle solvers will find a lot to like.
- The feeling of getting nowhere fast may put some people off.

STAYING POWER 89%
- Three missions to solve and then onto Antines.
- Lots of variety and surprises to keep you interested.

AA RATING 88%
- Excellent value because you get the original as well.

FIRST DAY TARGET SCORE
Complete one of the three tasks.

COLOSSUS MAH-JONG

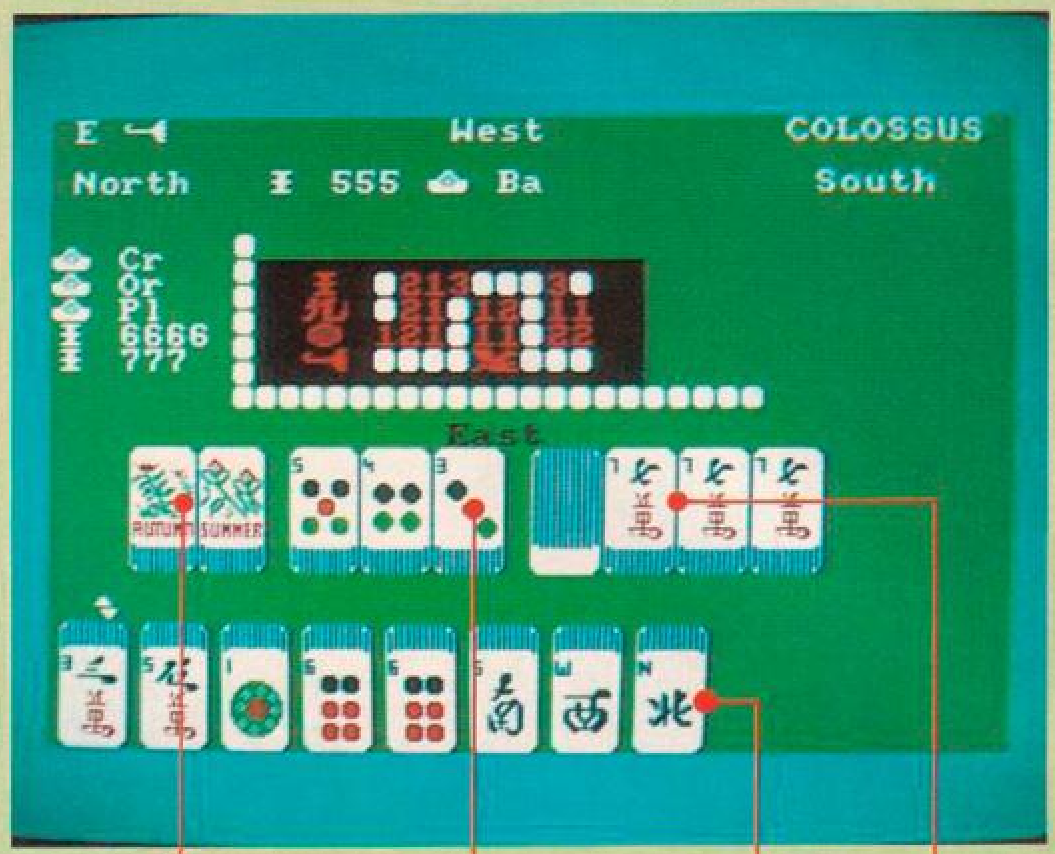
CDS, £9.99 cass, £14.99 disk, joystick or keys

CDS are well known for games like *Colossus Bridge 4* and *Colossus Chess 4* which had challenging computer opponents. Now they have turned their hand to the oriental tile game. Included with the game are a tutor program and a detailed manual to help you learn the basics of the game.

The game is played with 144 tiles which come in several types: bamboos, characters, circles, winds, dragons, flowers and seasons. Bamboos, characters and circles are like the suits in cards and are numbered from one to nine. The wind tiles represent the north, south, east and west winds, and the three dragons are red, green and white. There are four of each of these tiles. There are also four flowers and four seasons but each is different, the seasons being the four seasons of the year and the flowers corresponding to each season.

Each player is known as one of the four winds, much as in bridge. At the start of play a wall is built using the tiles and each wind is dealt thirteen tiles from it with the exception of the east wind who is dealt an extra tile. The aim of the game is to get rid of all the tiles in your hand by forming sets or runs with the tiles. This is known as "going Mah-jong".

East starts the game by discarding a tile from his hand. Any other player can claim the discard providing it enables him to form either a pung, kong are chow. A pung is a set of three identical tiles, a kong a set of four and a chow is a run of three tiles in the same suit. If the tile is not claimed then it is placed on the discard pile in the centre of the screen. Play cycles in an anti-clockwise direction until



Season tiles and flower tiles score bonus points

A run of three tiles is a chow, only one of which is allowed in each hand

The four winds can be collected to boost your score

A kong is a set of four identical tiles

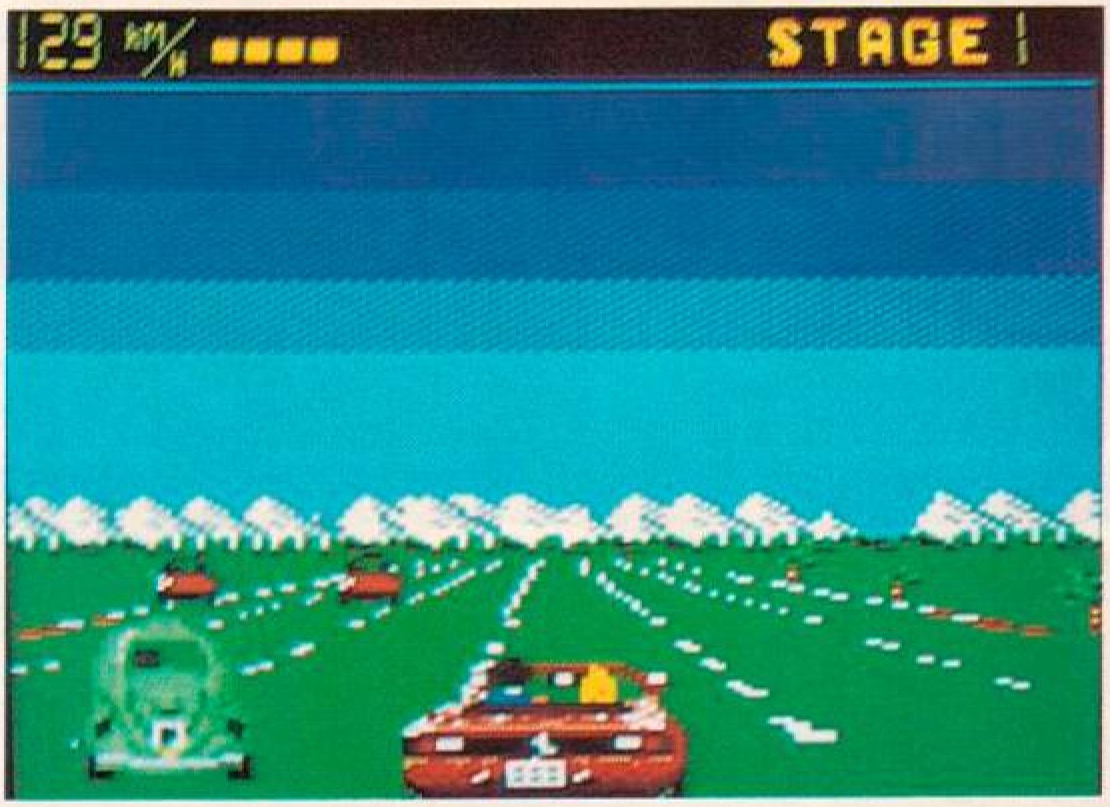
OUT RUN

US Gold, £9.99 cass, £14.99 disk, joystick or keys

If you walk into an arcade now you'll probably see arcade machines with bits of car sticking out of them. Although it may look like someone is very bad at parking, it is in fact supposed to be like that, so you can feel all the movement of the car as you hurtle around bends and speed over hills. Fortunately you don't get splattered all over the game screen when you crash. The question is, did the game convert well to the home micro?

You are sitting in the driving seat of a Ferrari Testarossa with five stages of race to complete. There's a time limit to each stage and failing to reach to checkpoint before time runs out ends the game. At the top of the screen is a status display which shows your score, lap time, speed and time remaining. The rest of the display is taken up with a rear view of your car and a 3D scrolling representation of the stage through which you are travelling.

Before the race begins you can change the amount of traffic that will be on the roads from easy to very hard. Put your foot on the accelerator and you're off, nothing can catch you now, with the exception of a small tortoise out for a stroll. The impression of speed in this



The graphics are slightly better than the gameplay

The Verdict

GRAPHICS 54%
- □ The tiles are colourful and well defined.
- ■ Not much else as far as graphics go.

SONICS 06%
- ■ Just a single beep.

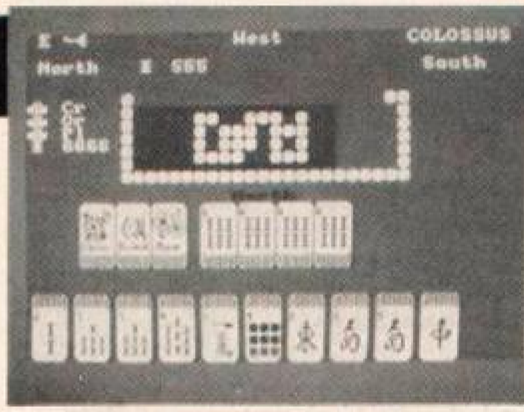
GRAB FACTOR 78%
- □ Challenging and fun once you understand what's going on...
- ■ but a little confusing at first.

STAYING POWER 87%
- □ Nine skill levels will keep you occupied for a long time.
- ■ A save game option is a serious omission.

AA RATING 82%
- □ A good conversion of a game that should keep many people happy for years.

all the tiles have been removed from the wall (a washout) or someone declares Mah-jong. If a player only needs one tile to go Mah-jong then he is said to be fishing. To go Mah-jong you must have four sets and declare Mah-jong with a pair. Only one chow is allowed in your hand.

Points are scored after each hand, unless there's a washout when nobody scores, and they are added to your cumulative score. If the east wind wins then he remains as the east wind for the next hand, but if any other wind



East to play, but which tile to discard ?

is victorious then the winds cycle one place anti-clockwise. Play continues until each player has been the east wind four times. A complete game of Mah-jong can take a long time to play and so a shortened version can be played.

Other than the selection of which tile to play, the program has several options that you can use in your turn. Dead tiles allows you to have the discard pile visible or hidden, the latter makes for a harder game because you have to remember what's been discarded. The expert mode removes flower and season tiles from the game which eliminates much of the luck element from the scoring. A hint indicates which tile the computer thinks you ought to play, level changes the computer skill level, peep shows you what tiles your opponents are holding and wait adjusts how long you have to decide whether or not you want to claim the discarded tiles.

A new hand option starts a new hand without changing the wind of the round. A hand can also be re-played completely or you can just re-play the last discard. You can quit the game, but it would be better if you were asked to confirm that you want to quit rather than just doing it. Some of these options allow you to cheat so you'll have to resist the urge to use them if you want a fair game.

Sound is very limited with the only effect being a standard beep. The tiles look very pretty and that's all you get as far as graphics go, the rest of the display is just text.

Not having played Mah-jong before didn't seem to matter really. At first it seems confusing, but after a few hands you begin to understand what is going on and get into the swing of things. One feature that is lacking is a save game option. Some games don't convert very well to the micro, but this one does. Mah-jong players should find the higher skill levels challenging and newcomers to the game will learn as they go along. GBH

SECOND OPINION

I've played Mah-jong before so it was easier for me to get to grips with the computer version. It's excellent for both the beginner and more advanced player, automatically performing all the hard parts of the game like the scoring and tile handling. You can only have one human player but that's understandable because of the complexities of hiding players hands from each other. It's nicely presented, using the tiles to their best effect, although the constant redrawing gets rather wearing. You'll be playing this one for many years to come.
BW

GREEN SCREEN VIEW

No problems in green.

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game is so great that at first you think you're travelling at about 30 kmh, a quick glance at the speedometer will confirm that you are in fact travelling at 180 kmh.

There are other cars on the road and if you hit them you come to a dead stop and slide across the road. I have no idea why you slide across the road, you just do. Hitting any other obstacle has the same effect. As the end of each stage approaches you are given a choice of which route to take, the right or the left. This decision determines which data is loaded next out of the fifteen files on the cassette or disk.

Graphically it's very disappointing with slow scrolling and poor animation. The screen is colourful, but the objects are badly drawn. The sound is unbelievable. Your engine must be one of the quietest in existence because it doesn't make a noise at all. The only sound is the beep of your tyres as you go round tight corners. The sound for the game is supplied in the form of an audio tape of the arcade soundtrack supplied in the box.

As far as arcade conversions go this is probably one of the worst ever. Every good point that it had the arcades has been destroyed by bad programming. Eight bit computers just can't handle this type of game in the same way that the arcade machines can and anyone expecting the excitement of the arcades will be sorely disappointed. GBH

SECOND OPINION

This really is dreadful. There are better racing games that are two years old. There's no feeling of speed at all and no chance of getting the adrenalin rush that the arcade provides. The sound is awful – the tape soundtrack is good but it's a poor excuse for shoddy programming. The multi-load is annoying because it interrupts the flow of the action. My only hope is that the profits from this one get ploughed back into producing some decent software. BW

GREEN SCREEN VIEW

There's no problems seeing the game in green.

FIRST DAY TARGET SCORE
Complete 3 stages.

The Verdict

GRAPHICS 58%
- □ The car looks good.
- ■ Lousy scrolling, badly drawn obstacles.

SONICS 05%
- ■ Absolutely terrible (tape soundtracks don't count).

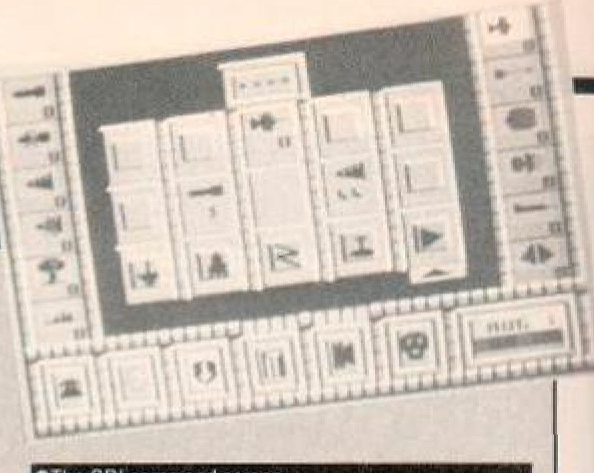
GRAB FACTOR 36%
- ■ No sensation of speed at all.
- ■ Not even a decent crash.

STAYING POWER 42%
- □ There are many combinations of routes.
- ■ There isn't enough variety to keep you going.

AA RATING 37%
- ■ A very disappointing conversion indeed.

HIGH FRONTIER

Activision, £9.99 cass, £14.99 disk, joystick or keys



●The SDI command screen

A lot has been heard of the American "Star Wars" project, known as the Strategic Defence Initiative (SDI). It's the plan to put space lasers and anti-missile systems in orbit around the Earth to stop the majority of nuclear warheads heading for the USA. You are in charge of the construction of the system.

SECOND OPINION

I disagree about the games popular appeal. I think it's got quite a bit going for it. The strategy element isn't very deep – just management of R&D resources, spying and weapon deployment. Nonetheless it's enjoyable, challenging and well presented. I don't think the politics will cause too many sleepless nights but the game might. **BW**

GREEN SCREEN VIEW

No problems.

The US and Soviet leaders can be one of three types: dove, realist and hawk. Dove leaders tend to spend less on defence and there is less chance of war beginning. The combination that's not allowed is two dove leaders. Two hawk's and war won't be long in coming. The orbit screen lets you practice fighting in orbit.

There are several icons across the bottom of the screen, each accesses a sub menu where you either receive information or execute commands. The telephone icon gives you presidential messages, the shield icon is used to control your SDI system, the calculator allows you to build up your SDI system, the camera tells your spies who to spy on and the skull icon gives you access to the threat screen. All of the icons are explained in great detail in the instruction manual and so are the systems that you can employ.

Presentation of the game is good with a useful instruction booklet. The icons are easy to identify and graphics adequate for the type of game. Sound is a little limited, but in general strategy games are judged on there challenge and not on there appearance.

In a tactical game like this you normally try to gauge how accurate a simulation it is. Since this is set in the near future there's no way of telling how realistic it is, and let's hope we never find out. It provides a challenge with options to make it last a little longer, but I'm dubious about the nuclear setting. **GBH**

The Verdict

GRAPHICS 46%
- □ Clearly defined icons.
- ■ A little more colour would have been nice.

SONICS 15%
- ■ Standard type effects for a strategy game, not very good.

GRAB FACTOR 58%
- □ For strategists it's a fair challenge.
- ■ Unnecessarily complicated instructions.

STAYING POWER 66%
- □ Lots of combinations to keep you challenged.
- ■ Basic action gets repetitive.

AA RATING 64%
- □ A good strategy game with an interesting setting.

BLOCKBUSTERS

Domark, £7.95 cass, joystick or keys

This is not the first time that the ITV quiz show has turned up on computer. It originally came out a long time ago from Macsen. The game has been redone with improved graphics and both the normal game and gold runs rolled into one package.

The game is designed for two players or teams, but it can be played solo. The quiz show is hosted by Bob Holness and the computer game has a small picture of him at the bottom right of the screen. If you don't want him looking at you while you play then you can turn him off.

There are two stages to the game: a two player stage (or one player against the computer) in which you have to form a chain horizontally or vertically across a grid of 20 hexagons, and the gold run. To win a hexagon you need to answer a question correctly. Answers are typed in from the keyboard and the program will sometimes give you the benefit of the doubt with spelling.

In the one player game you have a time limit in which to answer the question. If you run out of time or get the answer wrong then the computer gets the hexagon. The first player to link from edge to edge will win the game. When one player has won two games, he goes on to a gold run.

In the gold run you have 45 seconds in which to cross the grid. The questions are more difficult and the time limit is a major problem. Typing in all the answers within the time limit is very difficult and if you make more than one typing error then you're unlikely to make it. 60 seconds would have been a more sensible time limit.

You may recognise the tune that's played in the game, since its from the TV show. It's played well, but the rest of the effects are poor. Graphically it's very boring and the choice of colours is bad.

As a two player game it's quite good, but the one player game is a little boring. The time limit on the gold run is too short and this tends to irritate. **GBH**

SECOND OPINION

I don't know what possessed them to re-hash this old thing. It's not much different from the original and adding a digitised piccy of Bob "I'll have a P please" Holness doesn't make it any better. As quiz games go it isn't too bad, but that isn't saying much. **BW**

GREEN SCREEN VIEW

It doesn't look any worse in green than it does in colour.

The Verdict

GRAPHICS 37%
- □ Nice little picture of Bob.
- ■ Pity about the rest of the graphics.

SONICS 48%
- □ The tune is pleasant.
- ■ Other sound effects could've been better.

GRAB FACTOR 51%
- □ As a two player game it's fun.
- ■ One player game has less going for it.

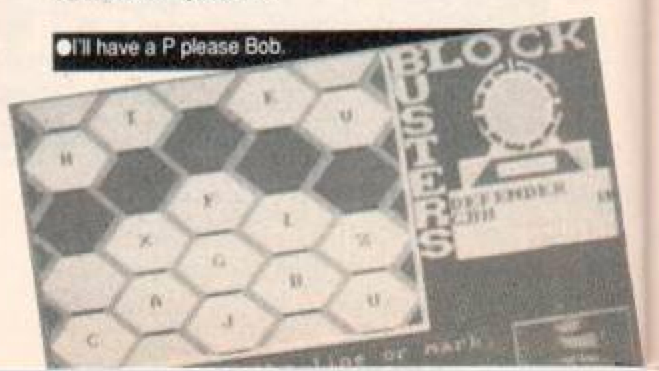
STAYING POWER 42%
- ■ You work through the questions very quickly.
- ■ Gold run time limit is too short.

AA RATING 47%
- ■ Little better than the original.

FIRST DAY TARGET SCORE

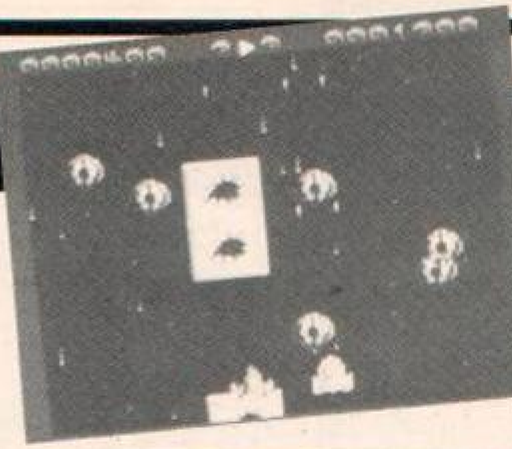
Complete a gold run.

●I'll have a P please Bob.



BEDLAM

US Gold, £9.99 cass, £14.99 disk, joystick or keys



●Dual play makes alien annihilation easier

You're sitting at the controls of the X12 fighter about to undertake your final test in the Stellar Imperium's pilot academy. This test will either pass or fail you.

Initially this looks to be standard vertically scrolling shoot-em-up with hordes of aliens for you to destroy. An unusual feature is the number of players option because there are three settings, one player, two player and dual play. The first two are fairly standard, but it's the dual play that makes this game a little different, because there can be simultaneous two player action. Fortunately you can't harm each other, but if you bump into the other player he bounces away a little. Normally this is ok, but sometimes he ends up ploughing uncontrollably into some oncoming aliens.

The game is split into 16 sections with a special bonus stage at 17. There is also a bonus stage every fourth stage – a mother ship appears that has to be destroyed before you can continue. Mother ships take several hits to be killed. The various sections have basically the same features and aliens, but their formations vary.

As well as the aliens and the gun batteries there are some objects that you can collect. They are shields and hearts to give you invulnerability for a limited time and an extra life respectively. Either cooperation or greed will determine who gets what in dual play mode. A shield is also given if a formation is completely destroyed. The player that killed the last alien gets the shield.

There's no title tune and the sound effects are pretty diabolical. The vertical scrolling is well done and the graphics are nicely drawn and colourful.

SECOND OPINION

Simultaneous two player action hasn't been exploited much in shoot-em-ups but I'm sure a better job can be made of it than this. Just throwing in a dual player option doesn't make an ordinary game anything other than that. We've seen it all before and unfortunately we'll probably see it all again. BW

GREEN SCREEN VIEW

No problems zapping in green.

The one thing that it has going for it is the dual play option, because it gives you something to compete against other than just a high score. GBH

FIRST DAY TARGET SCORE
45,000 points

The Verdict

GRAPHICS 67%
- □ Smooth vertical scrolling.
- □ Sprites are large, colourful and well animated.

SONICS 32%
- ■ No tunes and mediocre sound effects.

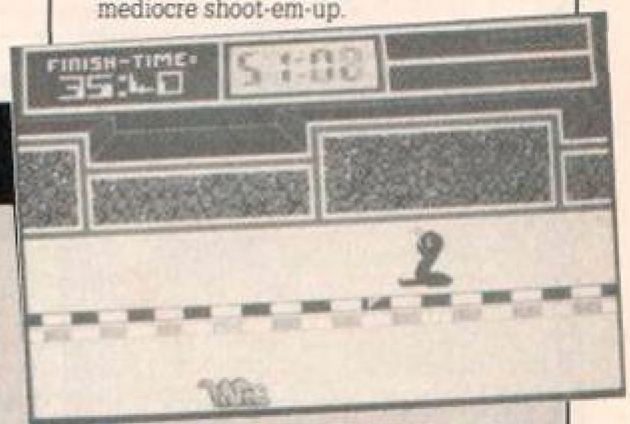
GRAB FACTOR 61%
- □ Dual play option is a fun feature.
- ■ Not very original.

STAYING POWER 48%
- □ 17 levels of increasing difficulty.
- ■ Little variation from level to level.

AA RATING 53%
- ■ Apart from dual play it's just another mediocre shoot-em-up.

GALACTIC GAMES

Activision, £9.99 cass, £14.99 disk, joystick or keys



●Don't lose your head

There have been sporting games simulations, western game simulations, military training simulations and now there's interplanetary sports. There are five olympic style events to enter in: 100m Slither, Space Hockey, Psychic Judo, Head Throwing and Metamorph marathon. One or two people can take part.

The first event on the list is the 100m Slither. In this you control a racing worm who has a maximum of 70 seconds to complete the course. Control is in the joystick waggling tradition of Decathlon.

Next comes Space Hockey in which you control one of two eyes that move around a large playing area. There's also the puck that frowns whenever he's hit by one of the players.

In Psychic judo you see a representation of you and your opponent. Both of you hurl bolts of mental energy at each other which you have to deflect, failure to deflect means that you lose some of your energy.

Head throwing is basically the javelin with a difference, the difference being that you run up to a line and throw your head instead. While your head's in the air you can waggle the joystick to make your ears flap and your head will then travel further.

Finally there's the Metamorph Marathon in which you have to negotiate an obstacle course within a time limit. You have five forms that you can take on: rest state, runner, burrower, jumper and flyer.

The graphics are very pretty and colour is used well. The presentation of the game is very good and the little eye that prints out the message looks nice. The sound effects are well done but there are no tunes.

This is basically a compilation of five different games with the only connection being the silly futuristic setting. It's well packaged and the games are fun to play, but I was left with the feeling that younger players are more likely to enjoy this than someone looking for a lasting challenge. GBH

The Verdict

GRAPHICS 68%
- □ Humourous and well drawn graphics on all events.
- ■ Backgrounds are dull

SONICS 45%
- □ Spot effects are good.

GRAB FACTOR 62%
- □ Five different games for the price of one.
- ■ None of them is particularly rivetting.

STAYING POWER 54%
- □ Events can take some mastering.
- ■ Once you've won all of them you'll probably only play with two players.

AA RATING 57%
- ■ Too simple to interest you for long.

SECOND OPINION

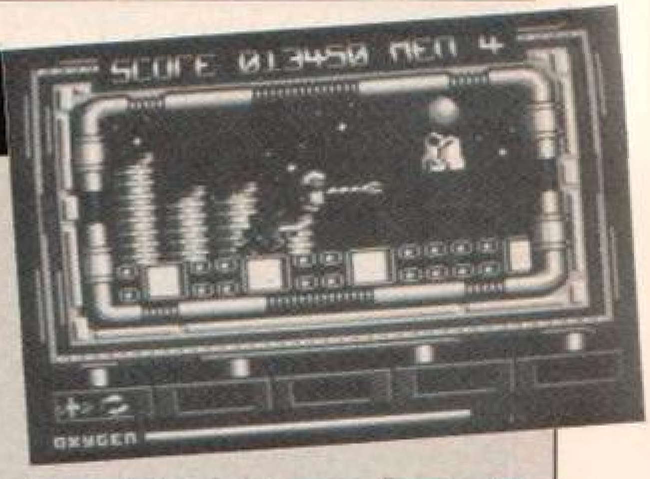
This is the sort of game that sounds great in concept – wacky alien sporting events – but isn't so good in execution. The events lack depth and for the most part are good for about one smirk before you're bored. Not likely to set anyones pulse racing. BW

GREEN SCREEN VIEW

It loses at lot of appeal in green, but there's no problem seeing the action.

NORTHSTAR

Gremlin, £9.99 cass, £14.99 disk, joystick or keys



●Equipped with an extra long arm you leap across the landscape

Due to a lack of food a top secret project was undertaken by the four Earth-Lords. The project was a massive space station on which huge quantities of food were produced efficiently and quickly. The last shipment of food failed to arrive and all has gone silent on the space station.

On arrival you find the station in the hands of aliens. In the lower part of the screen there is a status panel showing your oxygen level, score, number of lives and any weapons carried and the upper part shows the space station and it's occupants. At the start of the game you only have your robotic arm to kill the aliens, but as you progress through the game you will find cylinders that contain other weapons. The other weapons are accessed by smashing the cylinder with your arm and collecting the contents which will drift up towards the top of the screen.

There are five weapons that you can collect: extra long arm (so you can kill your enemies at a greater distance), a smart bomb, a weapon that lets you shoot upwards (which is very useful on later levels), a pair of boots that stop you from sliding and finally a limited invulnerabilty to make life a little easier. Unfortunately whenever you lose a life you also lose one of your weapons.

The music on the title screen is excellent and the effects in the game are splendid too. Colour is used to great affect and the graphics are well drawn. There are nice touches to the graphics like the way you slide to a halt.

If you want a game with lots of aliens to kill and little thought then this is for you. In the long term you may grow tired of it, but in the short term there's plenty of fun to be had exploring the large space station. GBH

FIRST DAY TARGET SCORE
40000 points

SECOND OPINION

It's an obvious derivative of games like Exolon, Gryzor and Green Beret, but competently put together. The graphics are delightful in all departments, rivalling even Exolon's. The gameplay can get frustrating, because there are times when you just can't help dying, but at least you don't get sent back to the start. BW

GREEN SCREEN VIEW

No problems seeing everything.

The Verdict

GRAPHICS 78%
- □ Smooth horizontal scrolling.
- □ Good use of colour.

SONICS 76%
- □ Brilliant title tune.
- □ In game effects are good too.

GRAB FACTOR 79%
- □ Instant fun running around smashing things with your arm.
- ■ Not an original idea.

STAYING POWER 65%
- □ Nine levels of fast and furious action.
- ■ Not much variation from level to level.

AA RATING 73%
- □ Good fun, but lacking in long term

ROLLING THUNDER

US Gold, £9.99 cass, £14.99 disk, joystick or keys



●Horrible graphics add nothing to this game

Geldra is the head of a secret organisation that must be stopped. The location of the HQ has been determined and you have to penetrate all ten levels of it.

The levels scroll horizontally and have balconies, doorways and a variety of obstacles in your path. They are guarded by Geldra's guards who are out to kill you. Fortunately you have a pistol and a machine gun, but in your haste to depart you picked up only a little pistol ammo and no machine gun ammo at all. The doorways are of three types, normal, pistol and machine gun. You can enter any door, but only those labelled with pistols and machine guns are very useful. Inside these doors you can reload your weapons with the appropriate type of ammunition.

The other doorways can be hidden in if there are too many guards around. The balconies allow you access to the doors on the upper level and also let you pass some of the obstacles that get in the way on the ground like the packing cases.

If you die on a level then you are sent back a long way and have to renegotiate all the hazards you had just bypassed. Later in the game you will come across automatic lasers and the fire-men (not the 999 variety) that inhabit the lava pools. If you manage to fight your way to Geldra's command centre and capture it then you'll have to meet Geldra in a final confrontation.

The graphics are terrible, animation is poor and there is very little detail in the graphics. There's a continuous tune, but that's nothing to get excited about. Sound effects are appalling too.

This is another classic example of how an arcade game completely fails to work on the home micro. The arcade game may have had a lot going for it, but all this has is a reputation based on the arcade game. GBH

FIRST DAY TARGET SCORE
30,000 points

SECOND OPINION

The gameplay is repetitive and frustrating. The graphics are terrible. The sound is disastrous too. To get any enjoyment out of the thing at all you'll have to have the patience of a saint. BW

GREEN SCREEN VIEW

It looks no worse in green than it does in colour.

The Verdict

GRAPHICS 34%
- ■ Poor horizontal scrolling...
- ■ and even worse animation

SONICS 46%
- ■ Horrible continuous tune.

GRAB FACTOR 42%
- □ Simple to get into.
- ■ Irritating having to go so far back when you lose a life.

STAYING POWER 35%
- □ It'll take a long time to complete.
- ■ You'll get bored very quickly.

AA RATING 37%
- ■ One of the worst arcade conversions.

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Activision, £9.99 cass, £14.99 disk, joystick or keys

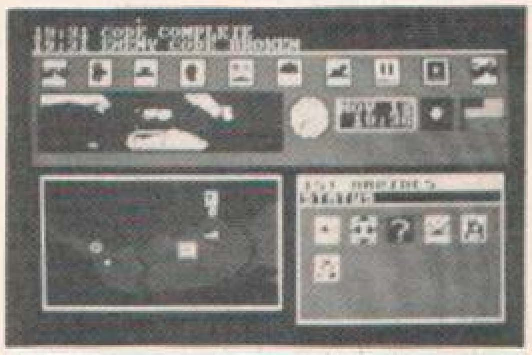
Guadalcanal is a Pacific island that was fought over by the Japanese and Americans during 1942. A history of the battle is supplied in the detailed instruction manual that's supplied with the game.

There are three scenarios that you can play: a three day battle to get you used to the game, the full Guadalcanal campaign in which you control the USA, and the final one is the same campaign but you command the Japanese. The objective is to win the battle by destroying the enemy forces using your land, sea and air forces. This involves careful use of your fleets, planes and men or you will leave yourself open to counter attack.

Along the top of the screen is a row of ten icons. The map icon switches you between the map and icons. Other icons appear when you've selected a unit and they let you find out what condition your forces are in and allow you to order yours troops to attack, withdraw, go home etc. Next to the map icon is the clock winder which rapidly forwards the time if things are going a little too slow for you. Scouts can be sent out on missions to find out what the enemy are doing. Intelligence information is important in any battle and the ear icon is used for this purpose.

Weather plays an important role in war and a weather icon tells you what it's like outside. The status of your fleet and the number of losses can also be shown via icons. The last three icons allow you to pause the game, save it or quit it.

It's a little confusing at first as to what's going on, but you soon begin to get to grips with the game. The use of espionage and scouts adds to the action because to win you need to know what your enemy is doing. The feeling of dread when you suddenly discover a massive fleet approaching you gives the game atmosphere.



● Battle for the island has just begun

Sound is simple beeps, buzzes and pings. The icons are all large and easy to identify. The graphics are small and simple on the map, a bit more detail would have been nice.

The manual is long and a good read through is recommended before you begin play. World War Two has had many of it's battles put onto computer and this one is a good representation of the battle. **GBH**

The Verdict

GRAPHICS 57%
- □ Good use of icons.
- ■ Map graphics are small.

SONICS 16%
- ■ Sound could have been used more.

GRAB FACTOR 64%
- □ A hefty manual gets you into the feel of the battle.
- ■ A little tricky to understand at first.

STAYING POWER 72%
- □ Three scenarios to complete.
- □ Each of them is a challenge in itself.

AA RATING 69%
- □ One of the better wargames in recent months.

FIRST DAY TARGET SCORE

Win in scenario one.

GREEN SCREEN VIEW

Some of the units are a little difficult to identify in green.

COMPENDIUM

Gremlin, £9.99 cass, £14.99 disk, joystick or keys

Compendiums have been around for a long time. Few Christmas' went by without one turning up amongst the presents. They usually looked cheap and were played with a few times and then put in a cupboard and forgotten about. Now you can play some of those old games in a slightly modified form on your computer.

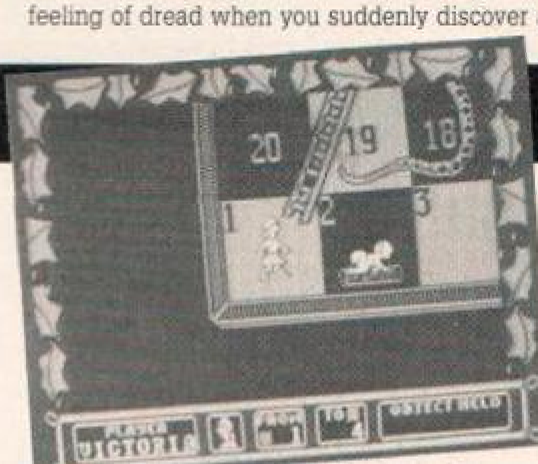
SECOND OPINION

Not exactly my idea of nostalgia or of long lasting entertainment. A few giggles may be had, particularly in multi-player games but hardly the sort of thing you'll play for long. I'm getting bored of saying it but where's the lasting challenge to keep you at the keyboard for weeks, months and years, never mind minutes? **BW**

GREEN SCREEN VIEW

Everything's easy enough to see.

Up to four people can take part in the game with each player being represented by a member of the Wink family. There are four games in the box: Ludo, Snakes and Hazards, Shove-a-Sledge and Tiddly Drinks. Ludo and Snakes and Hazards are the standard games with only minor differences. In both games the pieces used are Ralph, Victoria, Tiny Tim and Sniffer. The differences being that if you bump into one of other any other character on the board your turn will end and the next players begins. In Snakes and Hazards there are also some objects that stop your movement because your piece likes it, Sniffer the dog likes lamp-posts and bones for example.



● Snakes and hazards

In Shove-a-Sledge you push Tiny Tim on a sledge and try to make him stop in each of ten different zones in the snow. The first player to stop him in all ten zones wins the game. In Tiddly Drinks the family is in the local pub. Dad is out on a drinking spree and you have to catch the glasses that he throws into the air – after draining them of the contents. The winner is the one that caught most glasses by closing time.

Every game has at least one tune. They're all very good and it makes a change for a game to have such variety in the music. The graphics are a little simple, but they do their job well enough in showing what's going on.

This is definitely a game that only young players will find enjoyable. There's so little skill needed and such a lot of luck that it provides virtually no challenge. **GBH**

The Verdict

GRAPHICS 54%
- □ Background graphics look good.
- ■ Not much detail on the characters.

SONICS 87%
- □ Lots of tunes and they all sound good.

GRAB FACTOR 56%
- □ Initially it's a jolly piece of nostalgic fun.
- ■ Rapidly loses its challenge.

STAYING POWER 43%
- ■ Does anyone still play games like Snakes and Ladders ?
- ■ Even four different games doesn't hold you for long.

AA RATING 49%
- ■ It's more fun sitting around the board playing a game rather than doing the same on a computer.

STRAIGHT SIX

Loriciels, £9.99 cass, £14.99 disk, joystick or keys

This is a compilation of six games from the French software house. Two of the games have been released in the UK before, *Soccer* and *MGT*, the other four are *3D Fight*, *Billy*, *Flash* and *Zox 2099*.

3D Fight is a *Buck Rogers* style game in which you fly over the surface of a checkerboard planet, shooting the rapidly approaching aliens and ground based forces that try to kill you. Meteors drop in from the top of the screen in some stages and they also have to be dodged.

Billy is an exploration game where you have to find the four video games that are hidden in the city. To do this you move around, picking up objects on the way to give to people who will then disappear, allowing you access to other parts of the city. If you don't have the object that they want then they'll beat you up.

In *Flash* you're trying out a new military weapon which enables you to change from a man into a jeep, tank or helicopter. You have to put the equipment through its paces by wiping out enemy forces and their bases.

All of the inhabitants of the planet Hullm are being held hostage by Zox on an asteroid. *Zox 2099* is split into two parts: a fight in space and then an exploration stage on an asteroid. The space fight is a 3D shoot-em-up with aliens coming in one at a time shooting bolts of energy at you. Once on the asteroid you have to penetrate Zox's guarded labyrinth and free the people of Hullm.

MGT (reviewed issue 19) is a 3D exploration game. You drive around rooms in a tank shooting at invading alien bacteria and solving puzzles to get you further into the complex.

Soccer (reviewed issue 12) is a football game where you control one of four European teams. Either a second player or the computer can control one of the other teams. You can alter the difficulty level to make play easier or harder.

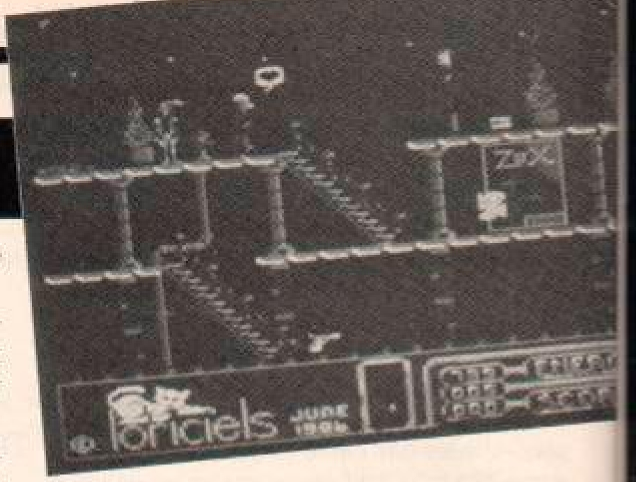
The graphics in all the games are colourful, although they are chunky and don't look brilliant. Tunes play in most of the games and they're good. The sound effects are generally disappointing.

SECOND OPINION

Not the best compilation of games I've seen but it's got plenty of variety and enjoyment to offer. MGT is probably the best of the bunch but the others will also keep you occupied for a time. The shoot-em-ups look dated but the arcade adventure elements are still quite interesting. **BW**

GREEN SCREEN VIEW

No problems on any of the games.



●Billy offers his heart to his girlfriend

None of the games are particularly outstanding, but as a pack of six they are good value for money. Take a look before you make a decision. **GBH**

The Verdict

- □ Good use of colour on all games.
- ■ Graphics are very chunky.
- ■ *Flash* has the worst graphics, they're small and indistinct.
- ■ Animation in *Billy* is poor.
- □ Great music on all the games.
- ■ Sound effects are in general of a lower standard.
- □ The best game is *MGT*.
- ■ *Flash* is the worst of the games.
- □ Good value for money.

AA RATING 60%

ANDY CAPP

Mirrorsoft, £9.95 cass, £14.95 disk, joystick or keys

This is the first time that a newspaper cartoon character has appeared on the Amstrad and he's probably the last as well. He's a beer swilling, cigarette smoking, layabout and he's had his dole cheque stolen.

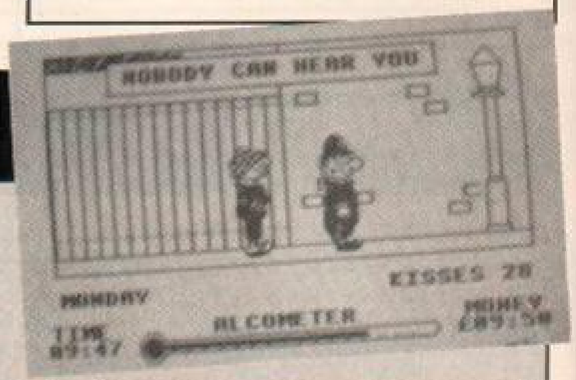
You start the game on Monday morning with a pittance in your pocket and your ever loving wife, Flo, is demanding your dole cheque. The screen is split into two parts, the upper play area and the icon area at the bottom. There are four icons: wallet, speak, fight and action. The wallet icon is used to get or giveaway money and to buy things when necessary. If you want to talk to any of the other characters in the game then you use the speak icon.

Violence is sometimes necessary to get you out of bad situations and this is done through the fight icon. The final icon is the action icon which deals with the manipulation of objects. There's also an alcometer that must never be allowed to read empty, if it does your game ends. No prizes for guessing where you top up on alcohol.

The rest of the screen display shows Andy and the rest of the characters that you'll have to interact with in the game. If you want to make a getaway from someone you can shock them into standing still by blowing a kiss at them.

The graphics are very similar to those found in the newspaper – black and white. Andy and friends are large and well animated, pity that they wander around town so slowly. Sound effects are minimal to say the least, but there's a good tune that plays before you start the game. If it sounds familiar think about small brown loaves of bread.

If I was to compare this to anything it would be games like *Marsport* and *Dun Darach*. You have to spend a great deal of time wandering around doing nothing and solving puzzles periodically. **GBH**



●Andy Tries to talk to the policeman

SECOND OPINION

The comparison to Marsport and Dun Darach seems to me to be purely in the movement area. The actual game tasks aren't anywhere near as absorbing, atmospheric or tricky. A strip cartoon licence strikes me as strange, particularly if you present it exactly as the cartoon in the paper. **BW**

GREEN SCREEN VIEW

You can see what's going on alright, the games in monochrome anyway.

The Verdict

GRAPHICS 53%

- □ Large well animated characters.
- ■ It's in black and white.

SONICS 36%

- □ Nice title tune.
- ■ Poor in-game effects.

GRAB FACTOR 58%

- ■ A bit more detail in the instructions would have helped.
- ■ Very confusing at first, because you've no idea what's going on.

STAYING POWER......62%

- □ Solving the mystery should take you a while.
- ■ Boring just walking around town trying to find someone.

- ■ Andy Capp doesn't seem to be the ideal candidate for a computer game.

AA RATING 60%

BUBBLE BOBBLE

Firebird, £8.95 cass, £14.95 disk, joystick or keys

Dinosaurs are making a comeback. The two pre-historic heroes of this game of bubble blowing mayhem are Bub and Bob the brontosauri. No wonder dinosaurs became extinct if they spent all their time blowing bubbles instead of eating and drinking like all those intelligent little mammals were doing.

SECOND OPINION

It's a cracker. Definitely a game I shall keep coming back to. It's not the graphics or the sound that make the game so enthralling. No, it's sheer addictability. The thrill of blowing bubbles, bashing monsters and feasting on the fruits of your labour. Just one complaint, why is the abort key so close to the player-restart key.

RpM

GREEN SCREEN VIEW

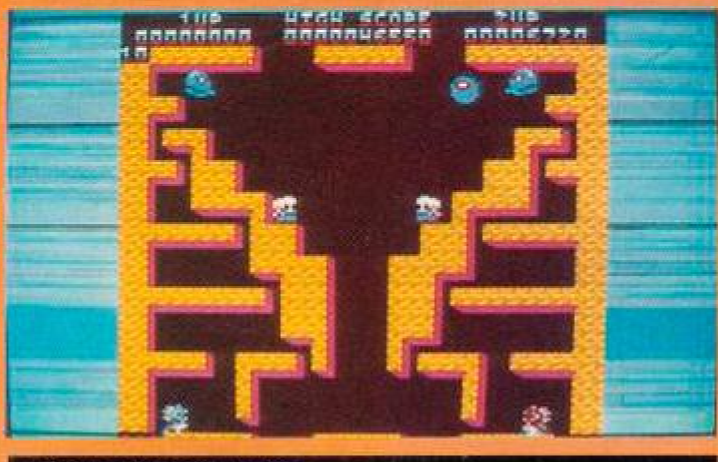
No problems playing in green.

This is one of many recent games featuring a simultaneous two-player option – double trouble dinosaurs. The game is made up of 100 levels, each of which is a single screen. To progress to the next level you must destroy all of the hostile inhabitants (the bullies) on the screen, who don't particularly want to be extinct. There are two stages to destroying the bullies, blowing a bubble to trap them and then bursting it.

The levels are made up of a series of platforms which you use to move around the screen. Travel between platforms is accomplished by jumping up or walking off the edge of a platform. You can fall any distance without worrying about dying when you hit a solid surface. Sometimes there are holes at the bottom of the screen and falling through these takes you to the corresponding hole at the top of the screen.

The seven types of bully are called Benzo, Bonnie-bo, Boa-boa, Blubba, Boris, Bonner and Baron von Blubba. Each of the seven little B's move around the screen looking for a nice, filling Brontosaurus to eat. Two of your opponents are more deadly and they are Baron Von Blubba and Boris. Boris spits rocks at you that must be dodged and the Baron turns up if you spend too much time on a screen, the Baron can't be bubbled.

Not only can bubbles contain the bullies, but they can also contain fire, thunder or water. Bursting an empty bubble merely adds 10 to your score. If you burst a water bubble then a stream of fast moving water emerges and heads off the screen destroying everything in it's path, taking you with it if you're not careful. The thunder bubbles release a bolt of lightning when burst and these travel across the screen killing anything that's foolish enough to move in the way, including the other player. A fire bubble drops out little flames which kill anything on contact.



● Bub and Bob go bully bashing

TETRIS

Mirrorsoft, £8.99 cass, £12.99 disk, joystick or keys

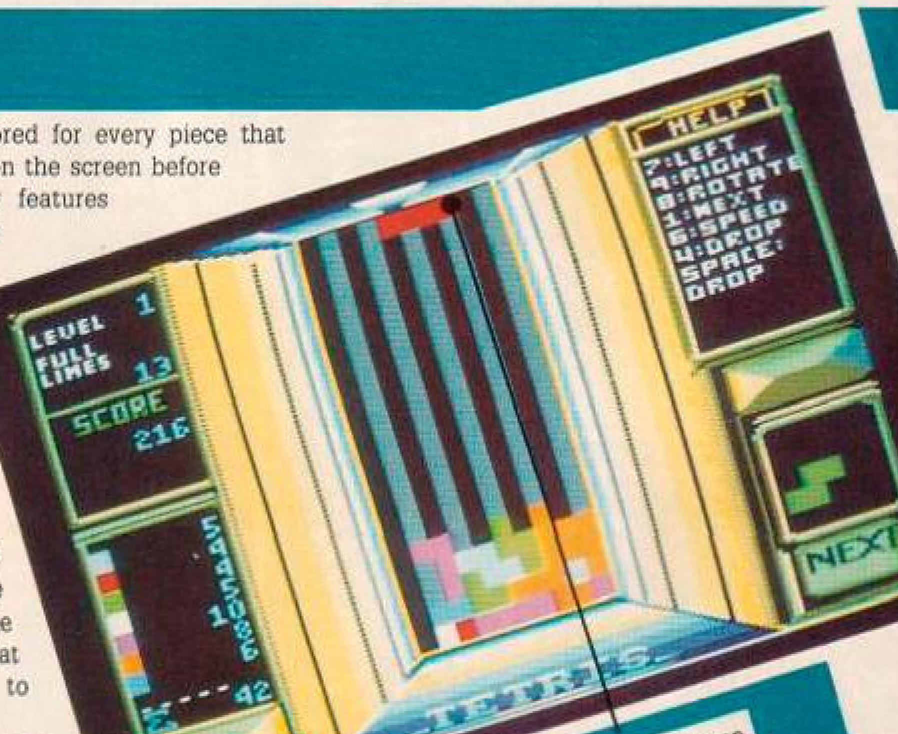
Watch out, the Russians are coming. A Soviet invasion is about to be unleashed on the unsuspecting British public. Before you go out and barricade the streets and prepare to repel the invaders, fear not, it's only a computer game. The game was programmed by Vagim Gerasimov, a student at Moscow University and has been brought to Britain via Hungary. It's the first time that a game originating in the Soviet Union has reached our shores.

Tetronimoes are shapes made up of four squares linked along their edges. They include straight pieces, squares, "L" shapes, "T" shapes and many others. The principle of the game is very simple, a random tetronimo appears at the top of the screen and falls towards the bottom. While it's falling you can rotate the shape through 360° in 90° steps and move it left or right. When it reaches the bottom of the screen or lands on top of another shape it stops moving and another shape appears. If the pile of shapes reaches the top of the screen then the game ends and you have to begin all over again.



Points are scored for every piece that you manage to fit on the screen before it's filled. Strategy features heavily in the game because you need to keep forming horizontal rows of colour across the screen. If you complete a row then it disappears and the blocks above move down a row. The clearer you keep the screen the longer that you will be able to keep scoring.

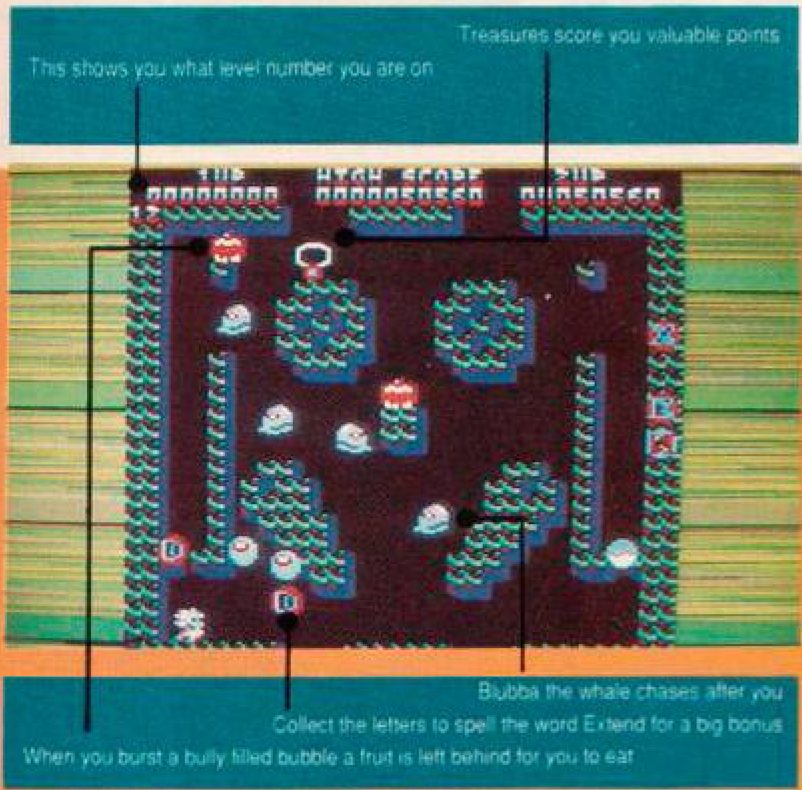
On the screen there is the playing area in which your tetronimoes fall and on either side of that is the status area. In the status area is your score, level, number of filled rows, a summary of the key commands, a record of how many of each piece has fallen and a window in which the next piece can be shown. The level setting determines how fast the shapes fall.



Turn through 90° and move it over to the left to fill the gap

After every ten rows are filled the level increases by one until it reaches the maximum of nine.

To make play a little easier you can switch on the next shape window and the shape that will follow the one currently descending the screen is displayed. This



Bully bashing makes bonus objects appear, the more that you kill at any one time the bigger the value of the bonuses that appear. A lot need to be destroyed in one go to make a diamond appear, but collecting it adds 32,000 to your score. If you complete a level quickly then the next level will have other bonus items on it that range in value from 5,000 to 10,000 points.

There are six magical objects that appear periodically, but they only stay on screen for a short time. One of them lets you move faster, a second fills the screen with random treasures, the third acts like a smart bomb and kills all the creatures on the screen, the fourth lets you throw out bubbles at high speed and everything goes bubbly, the fifth freezes all the bullies and the last one lets you shoot fireballs.

Letters sometimes crop up and if you collect six of them to form the word "extend" then you get a significant score boost, some extra lives and go to the next level. One advantage of the two player game is that you have eight credits between you. If one player dies then he can re-enter the game by pressing a key, one credit is used each time a player does this and when all eight credits have run out the game ends.

Sound is mainly beeps of just the right frequency to irritate you enough that the sound gets turned off completely. All of the sprites, especially Bub and Bob, are pretty but they do flicker a little.

It's taken a while for this arcade conversion to reach the CPC's but it's certainly been worth the wait. **GBH**

The Verdict

GRAPHICS 86%
- Colourful graphics with reasonable animation.
- Some flicker does spoil the graphics.

SONICS 42%
- Irritating bouncing noise.

GRAB FACTOR 85%
- Blowing bubbles and bursting them with a bronto headbutt is fun.
- Not a lot to think about.

STAYING POWER 72%
- 100 levels of increasing difficulty.
- Levels and gameplay get distinctly repetitive.

AA RATING 81%
- A good conversion that retains the addictiveness of the arcades.

FIRST DAY TARGET SCORE
Complete 15 levels.

---

information is very useful, especially on higher levels, because you have very little time to make a decision on where the shape is to be positioned. If you leave spaces between the blocks then the screen will fill up more rapidly and the end of the game will draw near. If there are spaces on screen and you complete a row above it then you may eventually get into a situation where that empty space can be filled again.

Graphics are very simple since all they are is squares linked together that fall down the screen. The shapes are colourful, but the rest of the screen has a boring design to it. There are no sound effects, but a good, if a little irritating, tune plays throughout the game. The Russian original of the game was programmed on an IBM PC and the conversion doesn't look brilliant. The presentation of the game is very amateurish to look at and it appears to be a bit of a rush job.

As far as gameplay goes it does have a certain appeal. Careful thought is needed as to where a shape should be put, because the wrong decision can quickly end your game. After a few games you begin to pick up the principles and your scores grow rapidly. The only problem that I think could arise is reaching a maximum score. On level nine the pieces fall so quickly that you often can't move the piece into the desired location and the game becomes impossible. It's a good game for a while, but you probably won't play it much once you've reached your peak. **GBH**

SECOND OPINION

Here I have to confess that I've played the game on another machine and preferred it there. I don't normally compare machine versions, but in this case the other version had a feature which is noticeable by its absence on the CPC's – a pause mode. This may sound trivial but when the blocks are appearing at full speed there is no way of keeping up with them, or even moving them in time.

A joystick operated pause mode allows you thinking time, although the shape manoeuvering would still have to be done in real time. This omission destroys much of the games long term strategic appeal and turns it into a simple game of reflexes rather than thought. With a pause mode you can plan your moves ahead, enhancing the brain testing element. I still enjoy the game but its lifespan and addictiveness have been badly hit by one small omission. **BW**

GREEN SCREEN VIEW

The pieces sometimes merge with the background on the green screen and make play difficult.

FIRST DAY TARGET SCORE
2,500 points

The Verdict

GRAPHICS 48%
- Good use of colour.
- Overall presentation of the game is dull.

SONICS 66%
- Pleasant tune plays throughout the game.

GRAB FACTOR 84%
- Fitting the pieces in place is engrossing.
- The whole thing looks amateurish.

STAYING POWER 66%
- The level of difficulty increases at the right speed to keep it challenging...
- but it becomes impossible to get further.

AA RATING 72%
- An excellent concept that just has a few rough edges.

ROMANTIC ROBOT *present*

1988 – THE YEAR OF THE ROBOT



Q: WELL, I'VE HEARD OF THE YEARS OF THE CAT, PIG, AND EVEN DRAGON – BUT THE YEAR OF THE ROBOT?

A: Absolutely! And ROMANTIC ROBOT wish to make 1988 a truly memorable year (if not us, who will?). To kick off with, there is an INTRODUCTORY OFFER OF **£29.88** ON RODOS, plus a truly unique 1988 NEW YEAR MAIL ORDER PRICE OF MULTIFACE TWO – **£39.88!**

Q: I LOVE SALES. BUT WHAT'S SO LIKEABLE ABOUT RODOS and MULTIFACE?

A: RODOS is too powerful and complex to be summed up here – please send a SAE for full info. MULTIFACE is (simply) a MUST for ANY CPC owner: it can copy and change programs as you wish.



Q: OH, DO I NEED TO DO ANY PROGRAMMING TO MAKE BACK-UPS?

A: NO! – NOT with the MULTIFACE TWO – it is in fact the ONLY product on the market which works FULLY AUTOMATICALLY. You LOAD any program as usual, RUN it for as long as you like and when you wish to make a copy you just press the MULTIFACE's red button and follow the menu and on-screen instructions.

Q: HOW DOES IT WORK THEN? IS IT EASY? USER-FRIENDLY? ERROR-TRAPPED? IDIOT PROOF? GUARANTEED?

A: YES! It works a treat and it could not be easier. The menu gives four basic options – to **SAVE** a program, to **RETURN** to continue it, to **JUMP** (say to your own routines – invaluable for hackers) and **TOOL** to access the MULTI-TOOLKIT set of built-in utilities. For example pressing **S** to **SAVE** will first allow you to **NAME** the back-up and then let you save a **PROGRAM** or just a **SCREEN** to **TAPE** or **DISK**. Before the saving itself, MULTIFACE compresses the program so that it takes the least amount of space on tape/disk and will re-load as quickly as possible. Once a program is saved, you can **RETURN** or **JUMP**, use the **TOOLKIT** to change it, **SAVE** it again, etc.

Q: DON'T YOU CORRUPT THE SCREEN WITH YOUR MENU, INSTRUCTIONS, PULL DOWN WINDOWS, ETC.?

A: NO. MULTIFACE TWO has its own memory (8K ROM & 8K RAM) and a lot more hardware – thus when it finishes its job or when you re-load your back-ups, everything is **FULLY** and **AUTOMATICALLY** restored: screen modes, colours, windows, etc. This is essential and NO OTHER DEVICE CAN DO IT!

***Q: OK, SO MULTIFACE CAN COPY FROM* TAPE TO DISC, *BUT CAN IT DO* TAPE TO TAPE *OR* DISC TO DISC *OR* DISC TO TAPE?**

A: Of course it can. MULTIFACE saves either to tape or disc and it saves whatever happens to be in the computer at that time – no matter how you loaded it in.

Q: SO FAR SO GOOD. BUT CAN'T I DO ALL THIS WITHOUT THE MULTIFACE?

A: ABSOLUTELY NOT! First, you need a hardware device, a "magic box", to be able to stop and copy programs AT ANY STAGE – be it upon loading, half-way through the game, etc. Tape/disc copiers can only try to copy programs BEFORE they load: if there are unorthodox loaders, speedlocks, protections against copying, etc., you'll end up with a problem – but not with a back-up. Also, with MULTIFACE you can poke infinite lives, ammunition, etc. – and then SAVE.

Q: MULTIFACE IS NOT THE ONLY 'MAGIC BOX' ON THE MARKET – WHY SHOULD I BUY IT MORE THAN ANYTHING ELSE?

A: There are four devices on the market. Action Reply by Datel Electronics, Disc Wizard by Evesham Micros, Mirage Imager and MULTIFACE TWO. Each manufacturer would naturally argue his product is the best buy – fortunately (for you and us), MICRONET recently compared all four units and MULTIFACE TWO came out the best in literally all respects: the most successful one – 100%!, the ONLY AUTOMATIC ONE, the FASTEST ONE both in LOADING *AND* SAVING time, the one taking the LEAST ROOM when saving – and you still get a couple of EXTRAS: a RESET button and an extensive and unique MULTI-TOOLKIT.

Q: MULTIFACE IS IT! THE RIGHT THING IN THE RIGHT TIME! IF ONLY IT PAID FOR ITSELF...

A: But it does! By the time you buy 8 programs on tape instead of disc, you will have saved £40 – the cost of the MULTIFACE. The money you save on further programs is all yours ... **MULTIFACE – worth every penny, saves you pounds!**

Romantic RObot Disc Operating System

Just one ROM will turn your CPC into a professional set-up: With RODOS you can attach additional disc drives – 40/80 track, single/double sided and store more than 800k per disc.

RODOS **NEW**

But RODOS is in fact much more than a fast and perfect DOS. RODOS also gives you RANDOM ACCESS, PRINTER BUFFER, full ROM manager, SILICON DISC, altogether 54 new bar commands, enormous power – all this and much more for £29.88 only!

multiface two

NEW YEAR MAIL ORDER SALE PRICE £ 39·88

RODOS

INTRODUCTORY OFFER-ON ROM £ 29·88

The special price of £39.88 applies strictly to mail orders received with coupon below before the 31st March 1988

Tape-to-disk at the touch of a button Ridiculous, you may say, but it works every time *Multiface* can stop any program in its tracks and save the program from memory to either tape or disk. It's completely fool-proof Similar products have had problems with screen size, colour and even sound; *Multiface* can handle all these without a second thought.

That alone would have satisfied many people, but Romantic Robot has gone one step further, incorporating a memory editor No program is safe with this: everything is out in the open, including the Z80 registers, CRTC data and any part of memory

Don't be fooled into thinking this will result in mass piracy, however The *Multiface* unit itself must be plugged into your Amstrad to allow reloading of a program it saved

Multiface II must be the cleverest hardware device at present – a necessity for disk owners who thought they were stuck with loading from tape every time

AMSTRAD ACTION JANUARY 1987

THE YEAR OF THE ROBOT · BE PART OF IT

I order MULTIFACE 2 (£39.88) ☐ / RODOS (£29.88) ☐ plus p&p UK £1, Europe £2, Overseas £3

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CALIFORNIA GAMES

US Gold, £9.99 cass, £14.99 disk, joystick or keys

California has a reputation of being full of beach bums, starlets and all the worlds wacky people, getting sun tans and generally enjoying themselves. This sounds like a nice way to live, it beats working for a living.

The six events that you can take part in are skateboarding, footbag, surfing, roller skating, BMX bike racing and flying disk throwing. You can practice an event, do one event, do all six or select which events you want do. One to four people can play.

Skateboarding is the first event and you have a side view of a half pipe with you in the centre on a skateboard. You score points by doing various acrobatics while moving up the slopes of the pipe.

The footbag is small bag which you have to juggle with your feet. The more elaborate the move the better the score that you get. You have 75 seconds to score as high as possible.

Surfing is the next sport and here you have to manoeuvre inside a wave to make as long a run as possible. The further you get, the higher the score.

Roller skating over an obstacle course is no mean feat. It'll take some practice before you can do the course with no problems. You begin the next event sitting in the saddle of a BMX bike at the start of a course filled with obstacles. You have to cover the course in the fastest possible time and do as many stunts as possible for points.

Finally there's the flying disk, or frisbee, throwing contest. You are standing at one end of a field with the disk in your hand. You select the angle and strength with which the disk is thrown and then control the catcher at the other end of the field who has to catch the incoming disk to score.

The Verdict

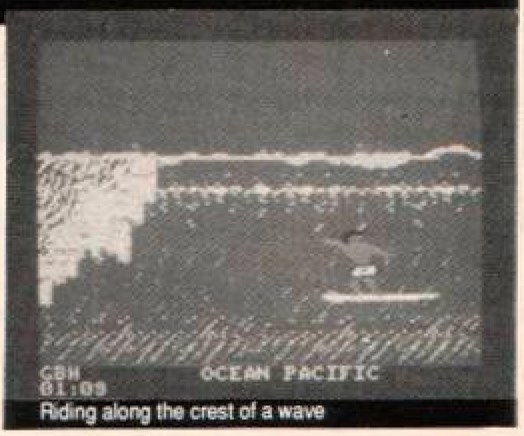
GRAPHICS 54%
- □ Colourful graphics.
- ■ They are chunky.

SONICS 43%
- ■ Not very stimulating.

GRAB FACTOR 63%
- □ Up to four people can play.
- ■ None of the events grabs your attention.

STAYING POWER 56%
- □ Mastering all six events provides variety.
- ■ Once mastered there's little fun to be had.

AA RATING 59%
- ■ Hasn't survived the conversion process well.



Riding along the crest of a wave

There's no music in the game and the sound effects are average. The graphics are colourful, but do have a chunky appearance.

Six events that are fun to some extent, but they may lose there appeal after a short while. Initially they're too difficult, but practice takes you to the other extreme of far too easy.
GBH

FIRST DAY TARGET SCORE
20,000 points total from all six events.

GREEN SCREEN VIEW
No problems.

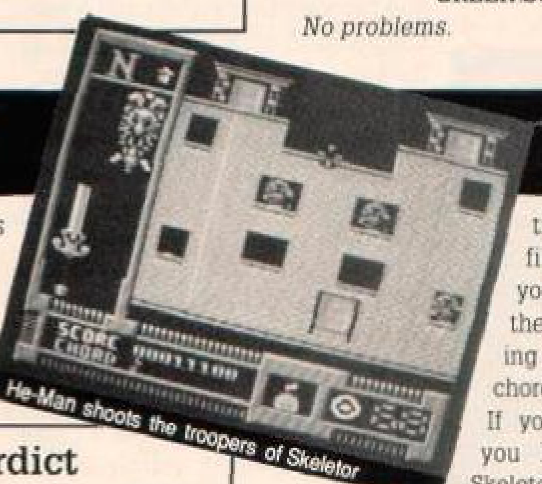
MASTERS OF THE UNIVERSE

Gremlin, £9.99 cass, £14.99 disk, joystick or keys

First there was the cartoon series on TV, then there was the movie and now there's the computer game. You are the muscle bound hero as the battle between good and evil comes to Earth.

The Key to time travel has inadvertently made its way to Earth and Skeletor has followed so that he can use the Key to become Master of the Universe. He-Man would much rather be the Master of the Universe and so he to has journeyed to Earth. Skeletor has brought Evil Lyn, his powerful ally, and a horde of troopers with him to ensure that he gains the Key. He-Man on the other hand has only brought his two friends Teela and Gwildor with him. Together they must stop Skeletor.

There are in fact five games rolled into one with this: the streets of modern day America, the scrapyard, Charlie's shop, the disk battle and the final confrontation. The streets are filled with troopers who you must dispatch with the aid of a gun while looking around for the eight chords that make up the key. If you enter the scrapyard you have to fight two of Skeletor's best men in a simple combat game. When you've killed both you receive a chord.



He-Man shoots the troopers of Skeletor

In Charlie's shop you play a *Prohibition* type game where you have to shoot 70 of Skeletor's men. You're then given another chord. The third game is a shoot-em-up where you fly around on a disk shooting Skeletor's men until you're greeted with a message that tells you Teela and Gwildor have been captured by Skeletor. Finally you must confront Skeletor himself in a battle that will seal the fate of the universe.

Sound is poor with only tinny effects and no tunes. The graphics in the streets are small and chunky, the scrapyard graphics are badly animated and incredibly slow.

Playing this game does get tedious, you just wander around trying to find pieces of chord and killing Skeletor's troops. Having to think occasionally would have been nice rather than just the mindless slaughter. **GBH**

SECOND OPINION

I played this one quite diligently through all the sequences, finding them too simple to activate brain cells or adrenalin. Having finished the disk sequence I had a very dull exchange of words with Skeletor, followed by a choice: 1 Come quietly, 2 Stand and fight. What would you do? I expect the same as me, which is to stand and fight – result, Game Over. It's enough to make you buy Out Run – well maybe not. **BW**

GREEN SCREEN VIEW
Skeletor's men are difficult to spot in green.

The Verdict

GRAPHICS 53%
- □ Smooth four way scrolling of the street scenes.
- ■ Small and poorly animated graphics.

SONICS 24%
- ■ Appalling sound effects – don't pause the game when a sound's being produced.

GRAB FACTOR 47%
- ■ Not much to do around town.
- ■ Confusing how north is not always straight up. It disorientates you.

STAYING POWER 39%
- □ Different sub-games provide some variety.
- ■ Not much to keep your mind occupied.

AA RATING 42%
- ■ Disappointing game that lacks the necessary fun element or difficulty level.

FIRST DAY TARGET SCORE
10,000 points

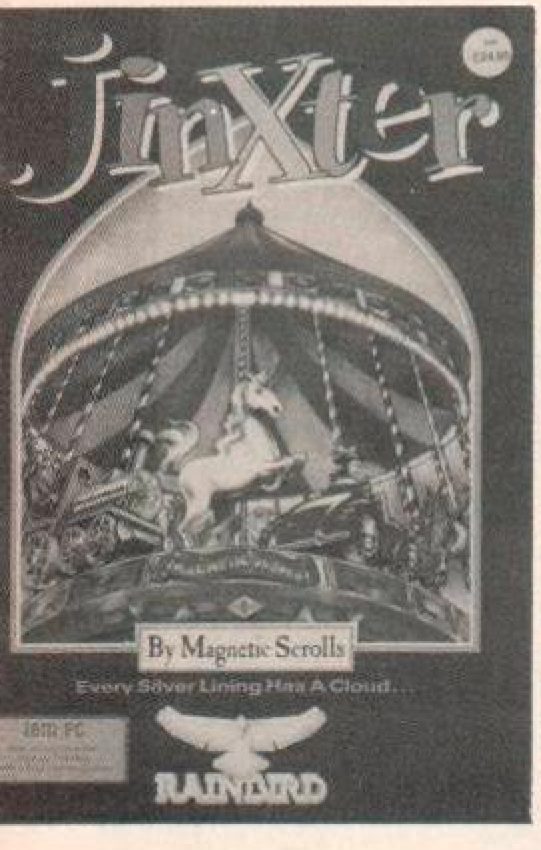
THE PILGRIM

Welcome! The Pilg Pages don't just get a new look, they also get a detailed preview of Magnetic Scrolls' Jinxter, a review of Sandra Sharkey's Shymer, news of Level 9's new image, and the latest hot gossip. If you're on the straight and narrow path, now's the time to take a rest with the Cowled Crusader, and catch up on what's going on...

Jinxter

Magnetic Scrolls/Rainbird, £19.95 disk only

Magnetic Scrolls are the blue-eyed boys and girls of the adventure scene in Britain these days. They came on to the market with a strong adventure programming system and a non-Middle Earth approach to fantasy, at the same time as Level 9 were struggling to improve their own system and, with two compilations of older games as their more recent product, appearing to be in something of a dead-end.



Both companies have moved ahead since then and *Jinxter* is Mag Scrolls' third game, following on from the *Pawn* and *Guild of Thieves*. It's a tricky game to evaluate – technically competent, but with a game scenario that seems slightly in conflict with the way it's presented.

Guild of Thieves was successful largely because of its simple plot – get as much treasure as you can – whereas the *Pawn* lost support with some players (and gained it with others) because of its rather enigmatic storyline and quirky sense of humour. *Jinxter* appears to be a mixture of the two - the task is very straightforward, but throughout the game there are intrusions of typical Magnetic Scrolls quirkiness. The company obviously think this gives everyone the best of both worlds, but of course it depends on your taste...

Simplicity

On the bottom level, there's a simple storyline – the Bracelet of Turani has gone missing, together with the five magic charms that were originally attached to it. Because of this, the power of the Green Witches of Aquitania, previously held in check by the bracelet, has been allowed to grow to the detriment of life, the universe, and everything. Your task is to find the charms, reassemble the Bracelet, and kill the arch-baddie, Jannedor the Witch.

Sounds simple enough, but around this Magnetic Scrolls have built a very complex, quirky scenario. First, the Green Witches are draining the luck from Aquitania, so everyone is suffering from severe and repeated doses of ill-fortune. Second, there are a bunch of Guardians – members of ARSE, the Association of Registered Stochastic Executives – whose job is to protect adventurers like yourself from sudden death.

These Guardians form the core of the humour throughout the game. Although Immortals, they eat cheese sandwiches, have pot-bellies, drink Old Moose Bolter beer, and constantly use the words "narmean", "wossname", and "werl". They are all called Len, and you can read about their moans and groans in the copy of the Independent Guardian that comes with the game.

The real function of the Guardians (as mentioned in the Pilg Preview a couple of issues back) is to extricate the novice player from difficult situations where he/she would otherwise lose a life and have to start again. This is an excellent idea because it enables a player to explore the game thoroughly, effectively by-passing some of the more difficult puzzles. Of

The Magnetic Scrolls Parser

Both Level 9 and Magnetic Scrolls have been busy updating their parsers over the past couple of years. Here's what the authors of *Jinxter* offer you:

Complex containers – you can put bottles containing milk in cases, or even the beer in the blue bottle into the green bottle.
GO THROUGH, ENTER, LEAVE, SIT DOWN, SIT ON, GET OFF
Relative positions – in, on, under, behind...
Ultra-complex commands – GO SOUTHEAST AND GET THE HARMONICA AND THE BOTTLE THEN GET THE KNIFE THAT IS ON THE TABLE AND USE THE KNIFE TO CUT THE SANDWICH
Use of pronouns – IT, THEM etc. You can check what a particular pronoun is currently referring to by typing PN or PRONOUNS.
AGAIN repeats the last command.
Z waits - other abbreviations include L, I, and DR...
SCORE tells you how lucky you are, and what your score is out of 205.
Communication with other characters, as in ASK LEN ABOUT THE SANDWICH.
8 directions plus UP, DOWN, and IN

Effectively this puts Mag Scrolls on a par with Infocom. Level 9 have stronger character handling facilities in their parser but lose out to Mag Scrolls on the relative position front and the use of ultra-complex commands including pronouns. Don't forget, however, that what really determines the success of a game is the design of the story-line, not the power of the parser. Unless you can really weld the strengths of your parser to the ingenuity of your scenario, your going to expend a lot of programming effort for nothing. A good example of this is Level 9's game *Knight Orc*, which has dozens of independent characters, who can do almost anything the player can, but who can often be simply a pain in the neck!

course, to get maximum score you have to solve them properly, but the Guardian is always there to rescue you from a tight spot.

Unfortunately I didn't find myself laughing much at the Guardian style of humour. The fact that ARSE was incorporated during the reign of King Willy the Bit Childish didn't have me reeling with hysterical laughter, nor did the rest of the Independent Guardian newspaper. This shouldn't matter at all, but I felt that the tone of the humour overshadowed the game itself.

In Play

There's no doubt, however, that it's a stunning adventure from the programming point of view. Practically every object has a witty and enlightening description, whether it's needed in the game or not. There are several different ways to solve some of the puzzles (one or two of which are very difficult indeed) and there is a wide range of locations, from a train station, to a fairground, to an under-water stronghold. Moving about the game is a constant pleasure of discovery as you find different uses for the many objects you discover.

What's more, there's an element of magic (for the first time in a Magnetic Scrolls game). Each charm has a corresponding spell which, if you have the charm, you can cast on objects to aid you in your progress. The five spells available enable you to freeze and animate objects; make them come back to you if lost or dropped; summon rain, and make the sun come out. You'll need to use each charm at least once to complete the game.

Magnetic Scrolls' games score, in my opinion, when compared to Level 9 first in the amount of attention they pay to the description of objects and people and secondly in their use of relative positions. This means that you can not only examine the table, but you can also look under it, on it, or even behind it. All this helps to build up atmosphere, making progress enjoyable as well as challenging.

Jinxter is an excellent game, but somewhat overclouded by a forced sense of humour that weakens the overall impact of the package. It's not too difficult to complete if you take the simplest solution each time and rely on the Guardian to get you out of trouble, but for the experienced player there's a lot to do and one or two very tricky puzzles indeed.

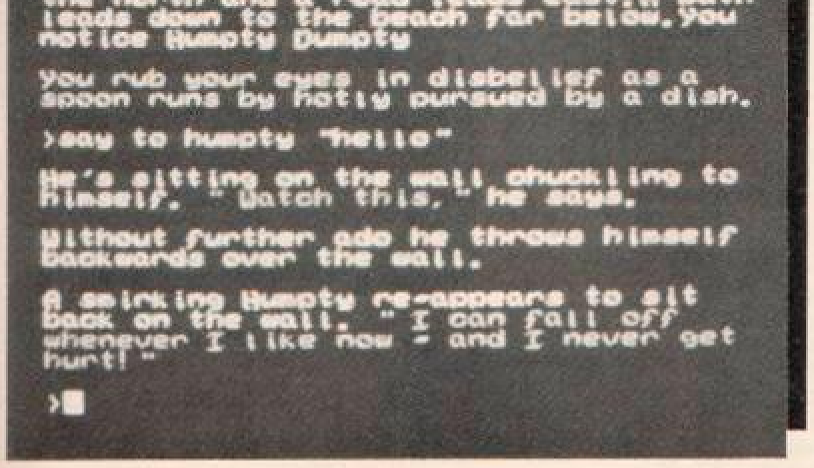
Atmosphere	85
Challenge	87
Interaction	90
Overall	88

Shymer

Sandra Sharkey, 78 Merton Road, Wigan, WN3 6AT £1.99

Sandra Sharkey edits the monthly magazine Adventure Probe, so she must have seen quite a few games in her time. The Pilg was intrigued, therefore, to see how she herself would put together an adventure. The Case of the Mixed Up Shymer (to give it its full title) gave me just that opportunity.

People keep claiming that do-it-yourself adventure kits like PAW, GAC, and The Quill open up the market to everyone who wishes to produce adventures. It's easy to exaggerate this possibility – after all, everyone nowadays can get access to a pen and paper, but that doesn't necessarily mean that everyone can write a book. You need time, patience, and dedication. And it certainly doesn't mean that everyone can write a GOOD book...The same applies to adventures, but at least now those few (and they are few) geniuses for adventure design need no longer be held back by lack of programming talent.



Shymer is a text-only game programmed using GAC. That in itself is a surprise but is, Sandra tells me, due simply to the memory limitations of GAC. As a personal preference she also believes that "not having graphics does not detract from the game". There's been endless debate over this point in every adventure column the Pilg has had the pleasure to edit over the past four years. My own view is that there is no doubt that there is a role for graphics in adventures, but that role must be created by the game itself – you can't just tack on pictures and assume they will enhance the adventure, something a lot of GAC programmers do simply because the program makes it so easy.

Sandra's game is highly original in some respects, and very traditional in others. The Island of Nersree is populated by numerous characters drawn from the world of nursery rhyme, but the role of each has become distorted and must be corrected by the player. For example, Little Bo Peep has FOUND her sheep, and Humpty Dumpty delights in chucking himself off walls all the time. You must put the world to rights, of course, and restore the illogical sense of the nursery rhyme in every case.

During play there are numerous appearances by the characters, all highly original. Little Bo Peep keeps yelling "Get lost" at her sheep, Old King Cole runs backward and forward stinking of alcohol, Little Tommy Thin dumps your cat, Dok Wat Son (Doctor Watson - geddit?) down a well, and Little Miss Muffet...well, let's face it, this is probably the only adventure in which you're likely to find a tuffet.

The trouble these days is that a huge gap has arisen between state-of-the-art games with stunning graphics, complex parsers, and interactive characters at one end of the scale (the £19.95 end) and games like *Shymer* at the other (£1.99 end). It can be a bit of depressing shock to load up a game and be thrown back three years into a world where most inputs require only two words, responses are frequently dismissive and unhelpful, and location descriptions are limited to one sentence, a list of exits, and mention of visible objects. But where such a game, however simple in its construction, succeeds in introducing an original theme, has no glaring bugs, is not too easy to complete, and manages to raise the occasional smile, then surely it deserves an audience. *Shymer* is only £1.99 – if you don't expect too much, then you won't be disappointed.

Atmosphere	55%
Interaction	53%
Challenge	65%
Overall	65%

Clue Sniffing with the Pilgrim



Here are this month's assortment of timely tips, courtesy of Rod Dunlop, Norm "the Fish" Rodgers, Emma Heggie, David Couldwell, Nicholas Heard, Robert Green, James Tarrant, and of course the Pilg himself.

Gnome Ranger

Accept Cap's offer of a free gift, but don't deliver the letter - go outside and read it.

The eagle will open the kennel for you, without you having to enter the witch's compound.

The dogs can track down the unicorn - make sure the gnymph is with you when you encounter it.

Guild of Thieves

Bet on the grey rat with the note.



Go to the hot house to kill the snake.
Reflect the beam at the wax with the mirror and catch the gem.
Drown the rats in the wine cellar by getting the pipe and opening the stopcock.

Runestone
To open any chest, describe the type of chest it is. EG Morval opens the wooden chest.
The crowbar is in the toolroom, south of the crypt.

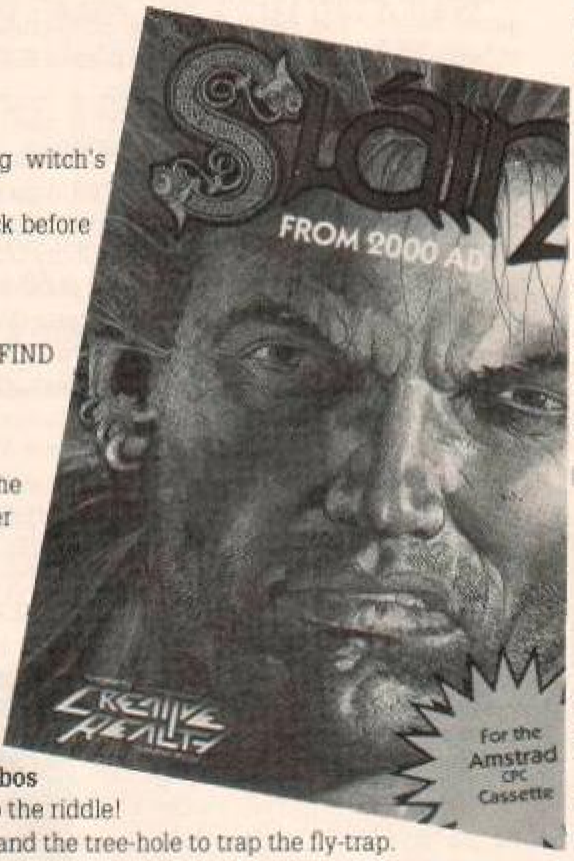
Fantasia Diamond
In the cottage, only the robot is capable of opening the manhole.
In the chest in the Dingy Cellar there is a glass and some wine. Drink wine and rub the glass.

Forest at Worlds End
Put log on chasm to cross.
Blow horn at precipice.
Wear ring before entering witch's hovel.
At the rock wall, touch rock before going east.

Rigel's Revenge
At the first location, FIND GOGGLES.

Haunted House
Kill Frankenstein with the spanner, and the adder with the subtractor fluid.

Venom
To get past the guard, tell him to drop his sword, then grab it.



Leather Goddesses of Phobos
The riddle is the answer to the riddle!
Use the trellis, the leaves, and the tree-hole to trap the fly-trap.

Chocolate gives you strength.

The Hobbit
It's been some time since we printed tips for this antique - but correspondence shows that there are still some people stuck out there in the Goblin's Dungeon.
In the forest, wait twice in each location to avoid being stung.
Kill the warg with the sword.
To get out of the goblin's dungeon, first dig sand, then break trap (possibly several times before it gives way), get key, then tell Thorin to open window, carry you, and go west...

Frankenstein
C.Mason has written in and is having trouble with the Bear. I think the solution here is to go up in the world...

Slaine
To get the fire element, remove the eye from the phoenix with the dagger. Put the eye in the furnace, get Ukko to pump the bellow and kill the demon that will appear. Remove the eye from the furnace with the tongs and cool it in the bucket. The eye has now become the fire element.

Lords and Ladies of Adventure

Here once again is the definitive list of those willing and able to give you all the help you need with the games they've completed themselves.

You can reserve a place for yourself in this column you've completed a game (or, even better, games) and are prepared to offer a helping hand to others. You can have a lot fun doing so, and make many friends in the

Rod and Staff Monthly



A Newsletter for Wanderers

Edited by the Pilgrim. Price: Free to all Followers of the Straight and Narrow Path

Activision Still Say No

A special presentation was made at the AA offices the other day. The Pilgrim duly handed a pile of mail to Clare Hirsch of Activision – letters received from readers of this column, begging Activision to resume publication of Infocom titles for the Amstrad CPC range.

Clare is well aware of the feeling amongst Amstrad owners, but the sad truth is that the sales in this quarter simply do not justify the company continuing to market the titles. Negotiations are continuing, however, so we may be able to make an announcement on this subject in a future issue. Don't give up hope yet!

There were a number of anonymous pleas, but amongst the rest were letters of protest from:
Joe Florek, C.Wilson, Robert Smith, Ian Houghton, Paul Langton, Antony Preedy, Jaehee Lee, Kath Ager, Carl Moon, Jane Davey, Gavin Manning, J. Fox-Green, J. McPhail, and Daniel Gibson. Many thanks to all of you who wrote in.

Probe Price Increase

Adventure Probe - the popular little A5 adventuring magazine put together by Sandra Sharkey - has had to raise its price to £1.25, but Sandra has written in to tell me that the support from readers has been "...overwhelming. Not one complaint!".

Probe is published every month - you can find out more by contacting Sandra at 78 Merton Road, Wigan, WN3 6AT.

Level 9 Go Mandarin

Level 9 have finally severed their link with Rainbird Software and signed up with new software distribution label, Mandarin. The new company has been formed by Europress International, owners of Database Software (publishers of Mini Office).

There has been some tension between Level 9 and Rainbird in the past over delays to release schedules. *Time and Magic* was due to be released last year, but the administrational overheads inherent in the relationship between the two companies meant that the title has still not been released.

Time and Magic will now be released by Mandarin and will be followed by *Lancelot*, Level 9's latest project based on the Arthurian Legen

Pilg Programming Offer!

Next month sees the resumption of THE series on programming adventures on your CPC. Because we've had to interrupt this series so frequently due to lack of space, we've come up with a special offer for Pilg readers – if you've missed previous instalments, you can get a photocopy of them all, to help provide a continuous guide to programming your own game. Write to the Pilg at AA, enclosing a large self-addressed envelope containing stamps to the value of 50p to cover photocopying costs and postage. Please DON'T stick the stamps to the envelope. The copies will be sent to you post-haste.

process.

"Christmas brought me an inundation of pleas for help," writes Rod Dunlop, "although my last entry as a Lord of Adventure was a while ago. Please can you reiterate the need for a SAE – sometimes people don't even include their address. I received a plea from a Greek lady, which I would have been happy to reply to, but she included no SAE and made no mention of her address..."



So, you get the message –



no SAE, no reply, even if you live in Greece (in which case you can include an International Reply Coupon – as can anyone writing in from abroad). And don't forget, if you're telephoning make sure you do so during sociable hours – not after 10pm or before 9.30am.

One last word...Joan Pancott of Lords and Ladies fame (see her long list of games below) has written in to tell me that many readers are now writing in with requests for help with a game, without indicating where they are stuck. This in effect amounts to a request either for no help at all, or for a complete solution – which is not what the Lords and Ladies are there for. Please be specific when requesting assistance.

Mindshadow, Never Ending Story, Espionage Island, The Hobbit, Heroes of Karn, Message from Andromeda, Return to Eden, Price of Magic, Gnome Ranger (part 1), Morden's Quest, Bored of the Rings, Boggit, Haunted House, The Mural, Leather Goddesses of Phobos.
Rod Dunlop, Durrisdeer, 43 Sutherland Avenue, Pollokshields, Glasgow, G41 4ET.

Adventure Quest, Apache Gold, Arnold Goes to Somewhere Else, boggit, Bored of the Rings, Brawn Free, Castle Blackstar, Castle of Skull Lord, Classic Adventure, Colossal Adventure, Crystal Theft, Dodgy Geezers, Dracula, Dungeon Adventure, Dungeons Amethysts Alchemists 'n' Everything, emerald Isle, Enchanter, Erik the Viking, Escape from Khosima, Espionage Island, Fantasia Diamond, Forest at Worlds End, Heavy on the Magick, Heroes of Karn, Hitchhikers Guide to the Galaxy, Hobbit, Imagination, Inca Curse, Jewels of Babylon, Kentilla, Lords of Time, Message from Andromeda, Mindshadow, Mordon's Quest, Necris Dome, Never Ending Story, Price of Magik, Project Volcano, Qor, Questprobe III, Red Moon, Return to Eden, Seabase Delta, Seas of Blood, Smugglers Cove, Snowball, Souls of Darkon, Spytrek, Subsunk, Sydney Affair, Terrormolinos, The Case of the Mixed-Up Shymer, The Trial of Arnold Blackwood, Vera Cruz Affair, Very Big Cave Adventure, Warlord, Wise and Fool of Blackwood, Worm in Paradise, Zork 1
Joan Pancott, 0305 784155 any day Noon to 10pm.

Return to Eden, plus limited help on Snowball.
Chris Street, 43 Ridgedale Road, Bolsover, Chesterfield, Derbyshire, S44

Pilgrim Post

Not fair?

Dear Pilg,

I am very angry about Activision's decision not to release future new Infocom titles for the CPC and PCW.

The reason that Amstrad sales of Infocom games aren't growing so rapidly is because the owners of the 16 bit machines are completely different group compared to 8 bit users. They have no cheap titles from, let's say, Delta 4, Mastertronic, Ocean, Hewson etc. Most adventures for the 16 bit market are from Infocom, Magnetic Scrolls, and Level 9 and the prices are high – at least £18 up to £30. There are some games from smaller companies, but they are rarely much cheaper.



This means that 16 bit owners buy more Infocom games simply because their choices are more limited! We Arnold owners have the choice of good and cheap titles (like *The Boggit*, *Very Big Cave Adventure*, etc.) as well as expensive and superb adventures from Infocom, Magnetic Scrolls, and Level 9 – we simply have more choice! The main reason that the Amstrad sales of Infocom games aren't exactly breaking world records is simple: we also buy games from many different companies!

Most 8 bit owners are young people who can't afford to buy an adventure very week or month with a price tag of over £20, while most 16 bit owners are older, so their wallets are also thicker! Because of these natural sales facts, Activision is about to limit our choice. It isn't fair. Do you and other adventure addicts agree with me?
Jaehee Lee, The Netherlands

Yes, Jaehee, I do agree with you. But unfortunately your letter spells out several very sound commercial reasons for Activision NOT to support the 8- bit Amstrad machines. The sad truth is that life (to coin a cliche) just isn't fair. I would love to run the new Infocom games on my Amstrad, and I would also like to drive a Ferrari. Unfortunately, it doesn't look as if I'll be doing either....

Contact the Pilg!

Why not write to the Pilg? He's a cheery chap, always on the look-out for an envelope with his name on, and he will always answer letters in this column if space permits. You can write on any subject related to adventures, from fantasy role-playing to comics, and be sure of a wide audience if your letter is printed.



So don't be shy - start a debate that the rest of the world can join in! You can write to **The Pilgrim, c/o Amstrad Action, 4 Queen Street, Bath, BA1 1EJ**, or mailbox me via Telecom Gold on 84:TXT152, putting "Pilgrim" on the subject line. I look forward to hearing from YOU, so get scribbling.

CHEAT MODE

Dick'n'Gary check out your tips, pokes and game-busting ploys. The best ones win an entire issue's *Raves* and the *Mastergame*. Send your latest gem to: Cheat Mode, *Amstrad Action*, 4 Queen Street, Bath BA1 1EJ

Indiana Jones and the Temple of Doom

Peter Clarke of Wootton Bassett has sent in a quick tip for US Gold's game. If you want to go to the next level just press "3" on the main keyboard.



POKE METHODS FOR TAPE

Here is how to input the majority of Cheat Mode tape pokes. The instructions for each poke tell you which of the two different methods to use. If you have a 664 or 6128, first type |tape.

METHOD 1

Rewind the game tape to the beginning. Now type in the poke listing. Then type RUN and press the Enter key. (Don't use the key marked CTRL or Control; that would stop the poke from working.) Press the Play key on the cassette deck, then any key on the main keyboard - spacebar will do nicely. The tape should now start to play through in the normal way.

METHOD 2

For this method you have to skip the first bit of the game program. To do that, start by rewinding the game tape to the beginning. Now type in the listing. Then type CAT and press Enter. Start the tape by pressing Play and then any key. Then watch the screen.

Soon you'll get the message Found *something* Block 1. It doesn't matter what the *something* actually is; this will vary from one game to another. If the Cheat Mode instructions just tell you to skip the first block, you should stop the tape here.

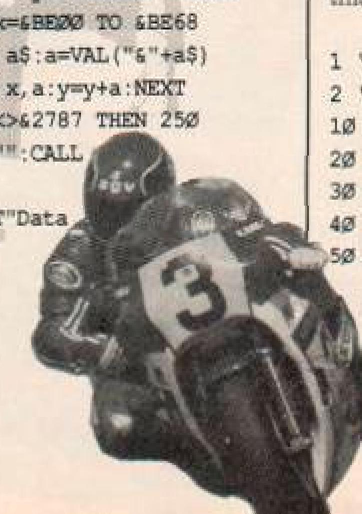
If the instructions tell you to skip several things, stop the tape when the Found message comes up for the last thing you're trying to skip.

Once you've stopped the tape, press Escape, type RUN and press Enter. Now press Play on the tapedeck and any key on the keyboard to start the tape running

Super Hang-on

Regular hacker **Phil Howard** of Mapperley has sent in this poke for the motorbike racing game. It is entered using Method 1 and gives you more time to complete the stages.

```
1 'Super Hang-on - tape
2 'by Phil Howard
3 'Amstrad Action March 88
1Ø DATA ØØ,21,1Ø,32,11,43
2Ø DATA Ø2,23,7e,fe,ØØ,28
3Ø DATA fa,e5,19,22,38,be
4Ø DATA 2a,Øf,bc,22,1d,bd
5Ø DATA 21,Øe,bc,36,c3,23
6Ø DATA 36,25,23,36,be,e1
7Ø DATA e9,3e,Ø1,cd,1c,bd
8Ø DATA 3a,ØØ,be,3c,32,ØØ
9Ø DATA be,fe,Ø2,cØ,21,3b
1ØØ DATA be,22,5a,34,c9,dd
11Ø DATA 21,5b,aa,11,ØØ,Ø1
12Ø DATA cd,ea,a9,21,4e,be
13Ø DATA 22,28,ab,c3,85,aa
14Ø DATA 21,ØØ,Ø1,23,7e,fe
15Ø DATA 3e,2Ø,fa,23,7e,fe
16Ø DATA Ø5,2Ø,f4,23,7e,fe
17Ø DATA 32,2Ø,ee,2b,36,Ø9
18Ø DATA c3,ØØ,Ø1,82,71,66
19Ø MODE 1:y=Ø:MEMORY &3ØØØ
2ØØ FOR x=&BEØØ TO &BE68
21Ø READ a$:a=VAL("&"+a$)
22Ø POKE x,a:y=y+a:NEXT
23Ø IF y<>&2787 THEN 25Ø
24Ø LOAD"":CALL
&BEØØ
25Ø PRINT"Data
error"
26Ø END
```



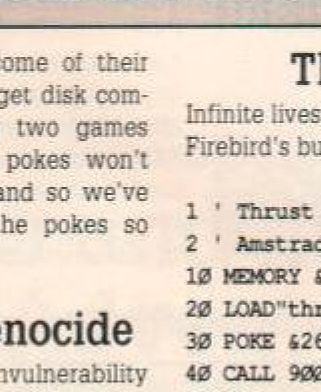
Budget Disks Poke Special

Firebird have put some of their older games on budget disk compilations containing two games each. The cassette pokes won't work on the disks and so we've modified some of the pokes so that you can cheat.

Mission Genocide

Infinite lives and invulnerability are now yours in the disk version of Firebird's budget game.

```
1 ' Miss Genocide - disk
2 ' Amstrad Action March 88
1Ø DATA 21,AØ,BE,11,4Ø,ØØ
2Ø DATA Ø6,ØC,CD,77,BC,21
3Ø DATA 4Ø,ØØ,CD,83,BC,CD
4Ø DATA 7A,BC,AF,32,C7,AØ
5Ø DATA 3E,C9,32,B2,AØ,C3
6Ø DATA ØØ,8Ø,47,45,4E,4F
7Ø DATA 43,49,44,45,2E,42
8Ø DATA 49,4E,82,71,66
9Ø FOR n=Ø TO 43
1ØØ READ a$
11Ø POKE
&be8Ø+n,VAL("&"+a$)
12Ø NEXT
13Ø CALL &be8Ø
14Ø END
```



Bombscare

Running out of power in this arcade adventure? That won't happen anymore with this poke for the disk version.

```
1 ' Bombscare - disk
2 ' Amstrad Action March 88
1Ø MEMORY &27ØF
2Ø LOAD"bomb.bin",&271Ø
3Ø POKE &9969,Ø
4Ø CALL &a1b5
5Ø END
```

Thrust II

Infinite lives on the disk version of Firebird's budget title.

```
1 ' Thrust II - disk
2 ' Amstrad Action March 88
1Ø MEMORY &153f
2Ø LOAD"thrustii.bin",&154Ø
3Ø POKE &26bb,Ø
4Ø CALL 9ØØØ
5Ø END
```

Thrust

No more running out of lives in this on the disk version.

```
1 ' Thrust - disk
2 ' Amstrad Action March 88
1Ø MEMORY &27ØF
2Ø LOAD"thrust.bin",&4ØØØ
3Ø POKE &4347,&c3
4Ø CALL &7ØØØ
5Ø END
```

Parabola

Infinite lives in Firebird's budget game of bouncing.

```
1 ' Parabola -
disk
2 ' Amstrad
Action March 88
1Ø MEMORY &3ØØØ
2Ø LOAD"parabola.bin"
3Ø POKE &8514,Ø
4Ø CALL &9979
5Ø END
```



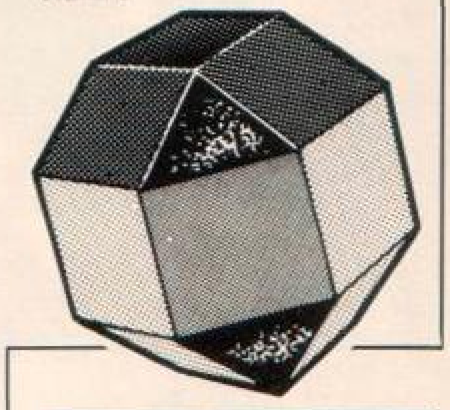
Driller

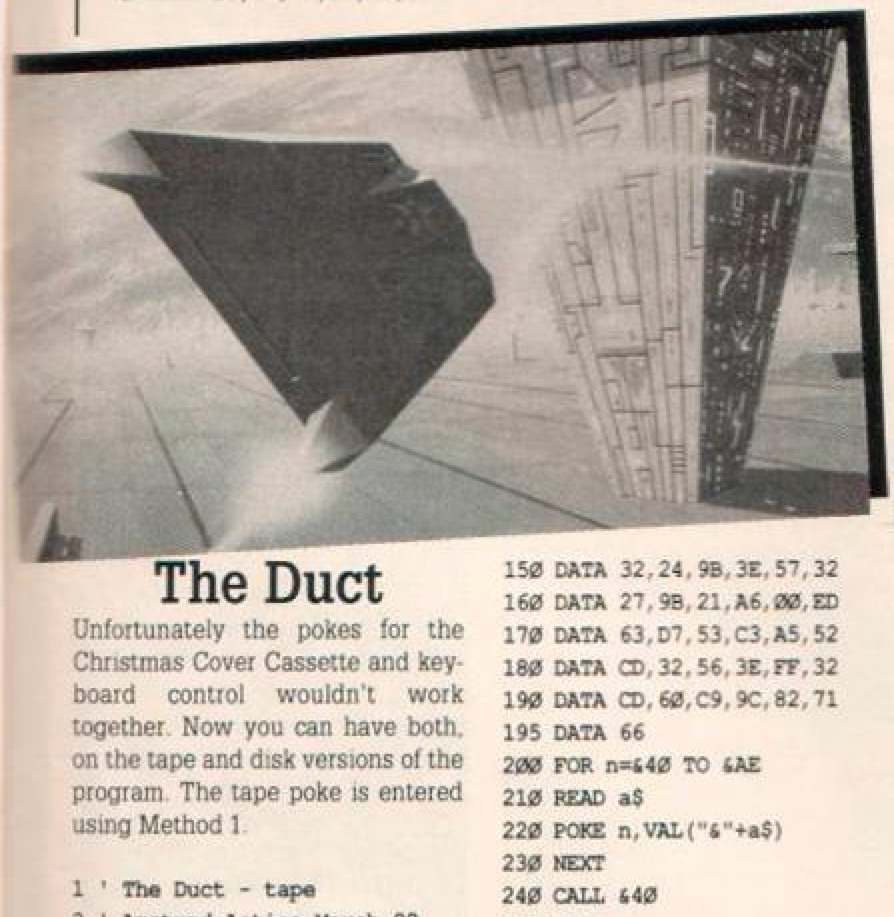
Tony Hoyle of St. Annes has sent in this poke for Incentive's Mastergame. Not only can you have infinite lives and shields, but you can position rigs while inside the jet and even begin the game inside the jet. Enter it using method one and answer the questions that appear.

```
1 'Driller - tape
2 'by Tony Hoyle
3 'Amstrad Action March 88
1Ø DATA DD,7E,ØØ,32,E5,BE
2Ø DATA 2A,38,BD,22,E3,BE
3Ø DATA 21,FF,3F,22,38,BD
4Ø DATA 21,9B,BE,22,Ø1,4Ø
5Ø DATA C3,Ø5,4Ø,AF,32,E6
6Ø DATA AC,21,AD,BE,22,4B
7Ø DATA AC,2A,E3,BE,7C,E6
8Ø DATA 3F,67,E9,21,E5,BE
9Ø DATA CB,46,28,ØD,AF,32
1ØØ DATA BØ,68,32,55,67,32
11Ø DATA F4,6B,32,87,6D,CB
12Ø DATA 4E,28,19,3E,18,32
13Ø DATA B8,6B,32,54,6D,3E
14Ø DATA Ø1,32,B9,6B,32,55
15Ø DATA 6D,CB,56,C8,3E,18
16Ø DATA 32,FE,53,3E,Ø1,32
17Ø DATA FF,53,C9,D4,CD,C8
175 DATA 82,71,66
18Ø FOR n=&BE8Ø TO &BEE2
19Ø READ a$
2ØØ POKE n,VAL("&"+a$)
21Ø NEXT
22Ø x=Ø
23Ø s$="Infinite shields and
energy"
24Ø GOSUB 34Ø
25Ø IF a THEN x=x OR 1
26Ø s$="Place drills while in
jet"
27Ø GOSUB 34Ø
28Ø IF a THEN x=x OR 2
29Ø s$="Start game inside
jet"
3ØØ GOSUB 34Ø
31Ø IF a THEN x=x OR 4
32Ø LOAD"
33Ø CALL &BE8Ø,x
34Ø CLS
35Ø PRINT s$
36Ø a$=LOWER$(INKEY$)
37Ø IF a$="y" THEN
a=1:RETURN
38Ø IF a$="n" THEN a=Ø:RETURN
39Ø GOTO 36Ø
4ØØ END
```

Tony Hoyle's poke has been adapted to run on the disk version. It does exactly the same thing.

```
1 'Driller - disk
2 'Amstrad Action March 88
1Ø DATA DD,7E,ØØ,32,D4,BE
2Ø DATA 11,ØØ,ØØ,ØE,41,21
3Ø DATA ØØ,Ø1,DF,D5,BE,21
4Ø DATA 9A,BE,22,3D,Ø2,C3
5Ø DATA ØØ,Ø1,3A,D4,BE,5F
6Ø DATA CB,43,28,ØD,AF,32
7Ø DATA BØ,68,32,55,67,32
8Ø DATA F4,6B,32,87,6D,CB
9Ø DATA 4B,28,1Ø,3E,18,32
1ØØ DATA B8,6B,32,54,6D,3E
11Ø DATA Ø1,32,B9,6B,32,55
12Ø DATA 6D,CB,53,28,ØA,3E
13Ø DATA 18,32,FE,53,3E,Ø1
14Ø DATA 32,FF,53,C3,9F,48
15Ø DATA ØØ,3C,CØ,Ø7,82,71
155 DATA 66
16Ø FOR n=&BE8Ø TO &BED7
17Ø READ a$
18Ø POKE n,VAL("&"+a$)
19Ø NEXT
2ØØ x=Ø
21Ø s$="Infinite shields and
energy"
22Ø GOSUB 33Ø
23Ø IF a THEN x=x OR 1
24Ø s$="Place drills while in
jet"
25Ø GOSUB 33Ø
26Ø IF a THEN x=x OR 2
27Ø s$="Start game inside
jet"
28Ø GOSUB 33Ø
29Ø IF a THEN x=x OR 4
3ØØ PRINT"Insert Driller disk
and press space"
31Ø WHILE INKEY(47)=-1:WEND
32Ø CALL &BE8Ø,x
33Ø CLS
34Ø PRINT s$
35Ø a$=LOWER$(INKEY$)
36Ø IF a$="y" THEN a=1:RETURN
37Ø IF a$="n" THEN a=Ø:RETURN
38Ø GOTO 35Ø
39Ø END
```





The Duct

Unfortunately the pokes for the Christmas Cover Cassette and keyboard control wouldn't work together. Now you can have both, on the tape and disk versions of the program. The tape poke is entered using Method 1.

```
1 ' The Duct - tape
2 ' Amstrad Action March 88
1Ø DATA 21,ØØ,ØØ,11,ØØ,8Ø
2Ø DATA Ø6,ØØ,CD,77,BC,21
3Ø DATA ØØ,8Ø,CD,83,BC,CD
4Ø DATA 7A,BC,3E,Ø1,CD,ØE
5Ø DATA BC,3E,2C,21,ØØ,CØ
6Ø DATA 11,ØØ,4Ø,3E,2C,CD
7Ø DATA A1,BC,3E,2C,11,87
8Ø DATA 9C,21,ØØ,Ø1,CD,A1
9Ø DATA BC,3E,Ø1,32,1E,9B
1ØØ DATA 3C,32,18,9B,3E,7F
11Ø DATA 32,1B,9B,32,21,9B
12Ø DATA 32,ØF,9B,3E,FF,32
13Ø DATA ØC,9B,3E,9A,32,ØD
14Ø DATA 9B,32,25,9B,3E,FC
15Ø DATA 32,24,9B,3E,57,32
16Ø DATA 27,9B,21,A6,ØØ,ED
17Ø DATA 63,D7,53,C3,A5,52
18Ø DATA CD,32,56,3E,FF,32
19Ø DATA CD,6Ø,C9,9C,82,71
195 DATA 66
2ØØ FOR n=&4Ø TO &AE
21Ø READ a$
22Ø POKE n,VAL("&"+a$)
23Ø NEXT
24Ø CALL &4Ø
25Ø END
```

```
1 ' The Duct - disk
2 ' Amstrad Action March 88
1Ø FOR n=&BE8Ø TO &BE91
2Ø READ a$:a=VAL("&"+a$)
3Ø POKE n,a
4Ø NEXT
5Ø DATA CD,32,56,3E,FF,32
6Ø DATA CD,6Ø,C9,21,8Ø,BE
7Ø DATA 22,D7,53,C3,A5,52
8Ø FOR n=&4Ø TO &C2
9Ø READ a$:a=VAL("&"+a$)
1ØØ POKE n,a
11Ø NEXT
12Ø CALL &4Ø
13Ø DATA 21,46,ØØ,CD,16,BD
14Ø DATA CD,CB,BC,3E,Ø1,CD
15Ø DATA ØE,BC,21,AB,ØØ,11
16Ø DATA ØØ,CØ,Ø6,ØC,CD,77
17Ø DATA BC,21,ØØ,CØ,CD,83
18Ø DATA BC,CD,7A,BC,21,B7
19Ø DATA ØØ,11,ØØ,CØ,Ø6,ØC
2ØØ DATA CD,77,BC,21,ØØ,Ø1
21Ø DATA CD,83,BC,CD,7A,BC
22Ø DATA 3E,Ø1,32,1E,9B,3C
23Ø DATA 32,18,9B,3E,7F,32
24Ø DATA 1B,9B,32,21,9B,32
25Ø DATA ØF,9B,3E,FF,32,ØC
26Ø DATA 9B,3E,9A,32,ØD,9B
27Ø DATA 32,25,9B,3E,FC,32
28Ø DATA 24,9B,3E,57,32,27
29Ø DATA 9B,21,A6,ØØ,ED,63
3ØØ DATA D7,53,C3,89,BE,44
31Ø DATA 55,43,54,53,43,52
32Ø DATA 4E,2E,42,49,4E,44
33Ø DATA 55,43,54,43,4F,44
34Ø DATA 45,2E,42,49,4E,ØØ
35Ø DATA 82,71,66
36Ø END
```

Anyone can make a mistake...or six!

A small error crept into last months poke for *Combat School*. Replace line 3Ø with the one below and the poke will then work correctly.

```
3Ø DATA 23,36,15,23,36,be
```

Also in last months issue the *Gauntlet* tape poke had two mistakes in it, one in line 7Ø and one in line 4Ø. They should have been:

```
4Ø IF a$="xx" THEN GOTO 8Ø
7Ø x=x+1:GOTO 3Ø
```

The poke for *Lightforce* in issue 28 had a case of disappearing letters in line 25Ø it should have been.

```
25Ø DATA a9,Ø1,ec,8c,ed
```

In issue 26 there was a poke for *Aliens*. The GOTO's in line 57Ø and 58Ø should have been GOTO 55Ø in both cases instead of GOTO 53Ø.

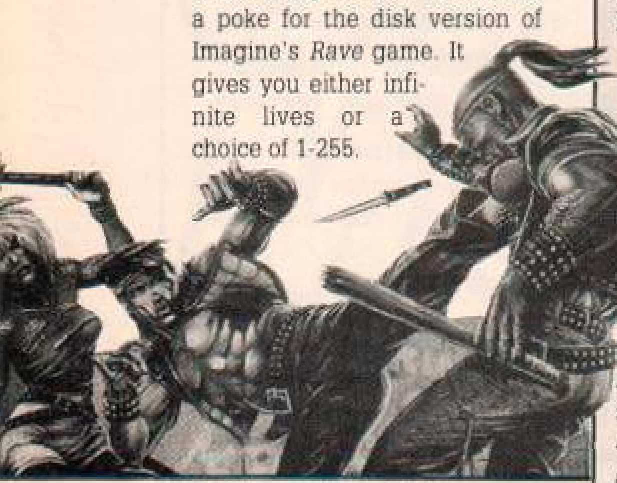
The *Commando* poke in issue 27 had an error in line 9Ø. It should have been:

```
9Ø FOR a=&9ØØØ to &9Ø13
```

Finally an apology to **Phil Howard**, who should have been credited with the Dan Dare poke in the last issue, which was part of the Classic Collection.

RENEGADE

Mike Wong of Sale has sent in a poke for the disk version of Imagine's *Rave* game. It gives you either infinite lives or a choice of 1-255.



```
1 ' Renegade - disk
2 ' by Mike Wong
3 ' Amstrad Action March 88
1Ø MEMORY &3ED9:MODE 1
2Ø FOR n=&8E8Ø TO &8EE1
3Ø READ a$:p=VAL("&"+a$)
4Ø POKE n,p:sum=sum+p
5Ø NEXT:IF sum<>9171 THEN
15Ø
6Ø INPUT"Infinite lives
(y/n)";a$
7Ø IF a$="n" THEN POKE
&8ED6,&3D
8Ø IF a$="y" THEN POKE
&8EDB,3:GOTO 11Ø
9Ø INPUT"How many lives (1-
255)";a
1ØØ POKE &8EDB,a
11Ø PRINT"INSERT RENEGADE
DISC"
12Ø PRINT"THEN PRESS A
KEY..."
13Ø CALL &BB18:LOAD"DISC"
14Ø CALL &8E8Ø
15Ø PRINT"ERROR":STOP
16Ø DATA 3e,c3,21,8e
17Ø DATA 8e,32,1d,3f
18Ø DATA 22,1e,3f,c3
19Ø DATA da,3e,21,4b
2ØØ DATA ØØ,36,75,21
21Ø DATA 4e,ØØ,36,Ø2
22Ø DATA f3,f1,c9,21
23Ø DATA Øb,a8,36,a8
24Ø DATA 21,Øe,a8,36
25Ø DATA 2e,21,2e,a8
26Ø DATA 11,2e,68,Ø1
27Ø DATA 26,ØØ,ed,bØ
28Ø DATA 3e,68,32,47
29Ø DATA 68,32,4b,68
3ØØ DATA 32,53,68,3e
31Ø DATA c9,32,54,68
32Ø DATA cd,2e,68,21
33Ø DATA d5,8e,22,f3
34Ø DATA a8,21,7a,a8
35Ø DATA af,77,23,77
36Ø DATA 23,77,c3,54
37Ø DATA a8,3e,a7,32
38Ø DATA 22,Øa,3e,ff
39Ø DATA 32,e1,Øf,c3
4ØØ DATA 4Ø,ØØ
41Ø END
```

Boy Racer

Joseph Garner of Holmes Chapel has sent in this poke for Alligata's racing game. It is entered using Method 1. Follow the on screen prompts to run it.

```
1 ' Boy Racer - tape
2 ' by J.P. Garner
3 ' Amstrad Action
March 88
1Ø MEMORY 12299:LOAD
"!game"
2Ø INK 1,15:INK
Ø,3:BORDER 3:MODE 2
3Ø INPUT "Indestructibility
for player 1 (y/n)";yn$
4Ø IF yn$="y" THEN POKE
&83CA,&AF
5Ø INPUT "Indestructibility
for player 2 (y/n)";yn$
6Ø IF yn$="y" THEN POKE
&83E4,&AF
7Ø INPUT "Infinite flight
length for player 1
(y/n)";yn$
8Ø IF yn$="y" THEN POKE
&83FC,&A7
9Ø INPUT "Infinite flight
length for player 2
(y/n)";yn$
1ØØ IF yn$="y" THEN POKE
&841Ø,&A7
11Ø INPUT "Infinite shots for
player 1 (y/n)";yn$
12Ø IF yn$="y" THEN POKE
&8556,&A7
13Ø INPUT "Infinite shots for
player 2 (y/n)";yn$
14Ø IF yn$="y" THEN POKE
&8E7D,&A7
15Ø INPUT "Infinite flights
for player 1 (y/n)";yn$
16Ø IF yn$="y" THEN POKE
&84C5,&A7
17Ø INPUT "Infinite flights
for player 2 (y/n)";yn$
18Ø IF yn$="y" THEN POKE
&8DEC,&A7
19Ø INPUT "Infinite fuel for
player 1 (y/n)";yn$
2ØØ IF yn$="y" THEN POKE
&8379,&C3:POKE &837A,&86:POKE
&837B,&83
21Ø INPUT "Infinite fuel for
player 2 (y/n)";yn$
22Ø IF yn$="y" THEN POKE
&83A4,&C3:POKE &83A5,&B1:POKE
&83A6,&83
23Ø FOR a=4Ø534  TO 4Ø642
STEP 24:POKE a,74
24Ø POKE a+1,79:POKE
a+2,69:NEXT
25Ø FOR a=4Ø69Ø TO 4Ø798 STEP
24:POKE a,73
26Ø POKE a+1,7Ø:POKE
a+2,77:NEXT
27Ø DATA 48,41,43,4b,45
28Ø DATA 44,2Ø,2Ø,42,59,end
29Ø DATA 4d,49,47,48,54
3ØØ DATA 59,2Ø,4a,4f,45,end
31Ø a=&9F7E
32Ø READ b$:IF b$="end" THEN
GOTO 35Ø
33Ø POKE a,VAL("&"+b$):a=a+1
34Ø GOTO 32Ø
35Ø a=&9F8C
36Ø READ b$:IF b$="end" THEN
GOTO 38Ø
37Ø POKE
a,VAL("&"+b$):a=a+1:GOTO 36Ø
38Ø CALL 32768
39Ø END
```

BOBSLEIGH

First of all buy an amateur two-man bob. For the first three races make sure that you train your team so that they're superhuman. Train them from then on to keep them at that level.

When choosing your runners use the following guidelines: if both air and ice temperatures are below -3 then use type 4 and if the air temperature is above zero use type 1. In between these levels you should use types 2 or 3. 3 will give you more control, but there isn't much to choose between their effect.

The start and early part of the run are the crucial time. Failure to get a maximum strength push start or clipping the ice wall on one of the early corners will cost a lot of time.

The waggle start is easy enough, but don't get carried away and forget to jump in the bob, because one crash can ruin a whole season. This is particularly true in the first few races when cash is tight and if you don't do well you'll soon be bankrupt.

On the first few corners you pick up speed quickly and must avoid the wall because at this stage they can literally put seconds on your time.

Try to keep to the bottom of the track on the turns, using the vertical inner wall as a guide. Don't ride high on the bends because you risk a crash coming out of them. More likely is that you will set up a pendulum effect that will make control extremely difficult on the following two or three turns.

The medium length turns are the easiest to deal with. The hardest are the very short kinks and long curves. The kinks can throw you off at a crucial moment either entering or leaving a turn, while it's easy to lose concentration on the long turns and let the bob drift just too far up or down.

You'll need to win consistently to get enough sponsors cash to buy the expensive bobs. There appears to be little difference between the two and four-man varieties, so go for two-man at first because it's cheaper. Once you have an Olympic bob you just need a top three season finish to get into the Olympics at Calgary.

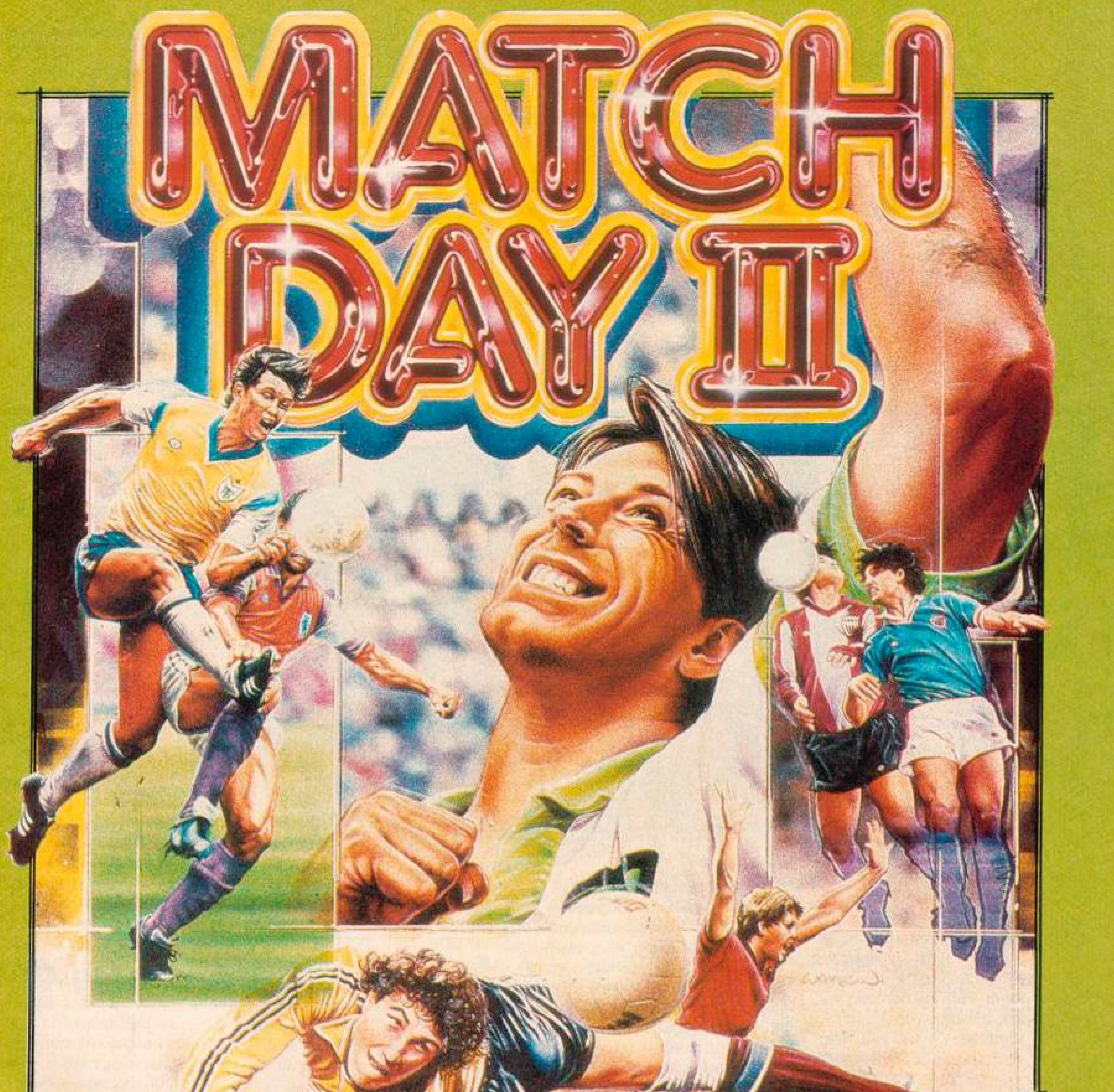


How to win an ENTIRE ISSUE'S rave software!

If you want to win an entire issue's *Rave* software, including the *Mastergame*, then all you have to do is produce an excellent map, poke or playing tips.

The best solution will win a copy of every *Rave* and the *Mastergame* from the issue in which the solution is printed. The number of games will vary of course, but it should be at least five, but in a good issue it may meet double figures. We also give runner-up prizes every month of a *Rave* or the *Mastergame* in that issue.

This months winner of the *Mastergame* and all the *Raves* is **Dave Joiner** of Epping for his extensive *Red L.E.D.* tips. The runners-up who'll either get the *Mastergame* or a *Rave* are **Tony Hoyle** of St Annes for his *Driller* poke, **Phil Howard** of Mapperley for his *Super Hang-on* poke, **Mike Wong** of Sale for his *Renegade* poke and **Joseph Garner** of Holmes Chapel for his *Boy Racer* poke.



MATCH DAY II

Red L.E.D.

Dave Joiner of Epping has sent in a mammoth guide to one of the routes across Ariolasoft's *Mastergame*. The landscape numbers refer to the numbers in the photo and also is the recommended order that you complete them in. The droids are numbered from left to right on the selection screen.



Landscape 1 Droid 1

Go right and when you reach the end fall off the slope. Go in the up direction until you see the energy and get it. Go right until you see the energy, get it and then go down until you fall off. Shoot the generator and then keep going down until until you reach the teleport. Use it once.

Get the droid freeze and then go left until you get the plus time, shoot the generator and then go back to the teleport. Again use it once.

Follow the path round until you see the generator and shoot it. Keep going left until you get the energy. Go back to the two thin paths and travel along one to the exit.

Landscape 2 Droid 3

Go down until you fall off and shoot the generator. Keep going down until the end, go up the slope and get the energy. Go up again until you reach the end and then go right to the energy and get it. Go left to the start of the slopes. Go down until you are level with the last line with a down slope and an up slope. Go left and when you reach the top go up. Teleport once.

Move left until the teleport is out of sight then then go up the little slope and get the energy. Go back to the teleport and use it once.

Follow the path around shooting the generator on the way. When you see the minus time below you go down the slope. Don't fall off, because you'll lose time. Keep following the path until you see two thin paths. Go along one, but don't go into the exit hole. Move around the edge of the hole anti-clockwise, get the energy and go through the exit.

Landscape 3 Droid 1

Go down, but don't go to fast or you'll fall off the end. Teleport once.

Go right to the end and then down. Get energy and return to the teleport. Use it once.

Follow the path round shooting the generator as you go. Keep following the path up the slope and get energy. Next go down and fall off. Keep going down until you fall off again and you'll reach the teleport. Don't use it, but go left instead. When you reach the top of the slope you should see the energy, get it and go left to the end. Go up and then left as soon as possible, then go through the exit.

Landscape 4 Droid 2

Go up until you are level with the side of the slope going down. Go right until you reach the bottom slope and keep going until the end. Go up until you can see a platform with the energy on it, get it and go back to the big slope. Go down it and you will come to a platform with two slopes going up. First go up the one you're facing and take the energy. Go back and take the second slope. Go up and miss the minus time. Move anti-clockwise around the hole. Get energy and then go back down to the platform. Go down the big slope, keep going and you will hit the acid waterfall. Don't worry you'll just bounce off it. Get into the last row and go left. When you reach the top of the slope go up and then right until you see the generator. Shoot it and follow the path to the exit.

Landscape 5 Droid 3

Shoot the generator and get get the energy. Go right until you reach the end and then go up. A path will lead off to the right, follow it until you see the energy. Get it and then go left. Keep going until you reach the hole. There are two paths, follow one until you get the energy and then go up until you are in the last line. Go right until you reach the end and then go up to the end. go left until you see the generator, shoot it and go along the path. Keep going to the end and then go left. Shoot the generator and go clockwise around the hole getting the energy on the way. When you've gone all the way round follow the path back until it goes left. Follow this back to the exit.

Landscape 6 Droid 2

Get the ice switch and go right until you see the energy, get it and then go up until you come to the teleporter, use it once.

Now go left until end, then go down until the end. Shoot the generator and go along the thin path. Get the energy and follow the path back round until you are level with the slopes. Go up until the end and then go right to the teleport. Use it once.

Go left to the end and then down to a path that goes left. Follow this to the end and go down. Shoot the generator, get the energy and go through the exit.

Landscape 7 Droid 2

Go right until you are next to the ice switch. Get it, but stay in the same row. Go up until you reach the energy. Go down until you reach another energy. Stay in the square that the energy was in and go right until you get the energy. Go right until you are near the two "L" shaped bits of acid and go down. Keep going (making sure you miss the exit hole) until you get the energy. Go through the exit hole.

Landscape 8 Droid 1

Go down until you fall off, get the energy and go right. Follow the path to the end and then go up to the energy. Get it and go left the teleport. Use it once.

Follow the path round to the energy, go back to the teleport and use it once.

Go left to the end and then up. Go right to the energy and take it. Continue right along the thin path until you fall off. Go up to the end and then right to the end. Go down to a path that leads to the right and follow it to the exit hole.

Landscape 9 Droid 2

Teleport twice to get the energy and then teleport five times.

Go left to the end and then down to a path that goes left. Follow it to the end and then go up. Go left to the end and then down along the thin path to an acid lake. Go left and get the energy. Go down to the end, left and then down again. Follow the path you are on (getting energy on the way) until you see a down slope. Go along the line before the start of the slope to the end and then go up. Get the energy and go right to the end. Go up until a path goes off to the right. Follow this until the acid lake is out of sight, but another lake is in just sight. Go up to the teleport, use it twice and go through the exit. You've then linked left to right and completed the game.



CLASSIC COLLECTION

The section where we reprint requested favourite pokes from the past. If you missed out on a poke for a game then write and let us know which ones you'd like to see again.

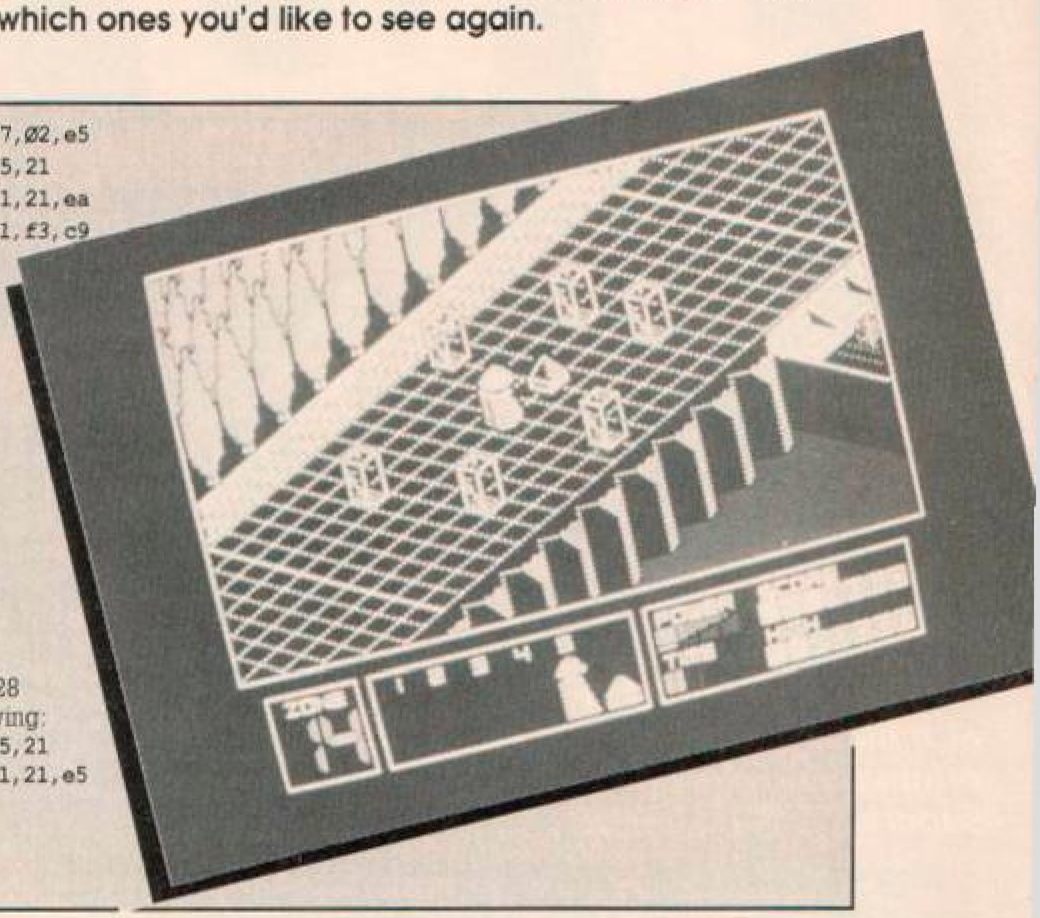
Highway Encounter

Vortex's *Mastergame* was hacked along time ago and here it is again. It freezes all the aliens except the spiky balls on the first run through. That only leaves the time limit to beat. The first poke is for the 464.

```
1 ' Highway Encounter - tape
2 ' Amstrad Action March 88
1Ø DATA 21,4Ø,ØØ,11,ØØ
2Ø DATA 9c,Ø1,4Ø,ØØ,ed,bØ
3Ø DATA 21,8Ø,ØØ,11,4Ø
4Ø DATA ØØ,Ø1,ØØ,99,ed,bØ
5Ø DATA 21,77,ØØ,36,Ø3
6Ø DATA 21,ØØ,9c,11,ØØ,ØØ
7Ø DATA Ø1,4Ø,ØØ,ed,bØ
8Ø DATA c3,f2,Ø1,21,74,22
9Ø DATA 36,Øf,23,36,aØ
1ØØ DATA 21,5d,22,36,5b,21
11Ø DATA 4Ø,2Ø,11,4Ø,ØØ
12Ø DATA Ø1,37,Ø2,ed,bØ,21
13Ø DATA 4Ø,ØØ,e5,21,ØØ
14Ø DATA bb,e5,21,37,Ø2,e5
15Ø DATA 21,Ø7,b8,e5,21
16Ø DATA bb,Ø2,e5,f1,21,ea
17Ø DATA b1,11,d9,b1,f3,c9
18Ø MEMORY &2ØØØ
19Ø LOAD""
2ØØ MODE 1
21Ø CALL &3A6A
22Ø LOAD"!",&2Ø4Ø
23Ø FOR x=&9BØØ TO
&9B5D
24Ø READ a$
25Ø POKE
x,VAL("&"+a$)
26Ø NEXT
27Ø CALL &9B29
28Ø END
```

If you own a 664 or 6128 then replace the following:

```
150 DATA 21,1f,b1,e5,21
160 DATA bb,02,e5,f1,21,e5
170 DATA
b7,11,d4,b7,f3,c9
```



Chuckie Egg

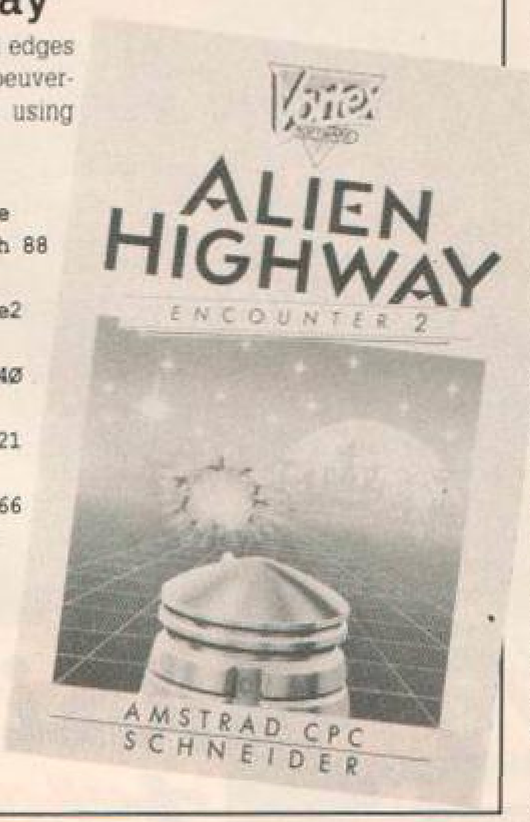
We've had some requests for a reprint of the poke for the old platform classic. Enter it using Method 1 and it'll give you infinite lives.

```
1 ' Chuckie Egg - tape
2 ' Amstrad Action March 88
1Ø MEMORY 32767
2Ø LOAD"",32768
3Ø POKE 4Ø175,255
4Ø CALL 39575
```

Alien Highway

Vortex's sequel has the road edges de-electrified to make manoeuvering easier. It is entered using Method 1.

```
1 ' Alien Highway - tape
2 ' Amstrad Action March 88
1Ø DATA 21,63,11,22,a1
2Ø DATA 11,c3,4Ø,99,21,e2
3Ø DATA 39,36,c3,23,36
4Ø DATA 5f,23,36,be,21,4Ø
5Ø DATA ØØ,e5,21,ØØ,bb
6Ø DATA e5,c3,b7,39,e5,21
7Ø DATA 75,Ø2,36,85,e1
8Ø DATA f1,f3,c9,82,71,66
9Ø FOR x=&BE4Ø TO &BE68
1ØØ READ a$
11Ø POKE x,VAL("&"+a$)
12Ø NEXT
13Ø MEMORY &2ØØØ
14Ø LOAD"alien highway"
15Ø CALL &BE49
16Ø END
```



RAMBO™ FIRST BLOOD™ PART II

Here's a poke for Ocean's kill-em game. It is entered using Method 1. The first program is for 464 owners.

```
1 'Rambo - tape 464
2 'Amstrad Action March 88
1Ø DATA 21,9c,8e,36,ØØ
2Ø DATA 23,36,ØØ,23,36,ØØ
3Ø DATA 21,ab,8e,36,ØØ,c3
4Ø DATA ØØ,8f,21,2d,22
5Ø DATA 36,f8,21,4Ø,2Ø
6Ø DATA 11,4Ø,ØØ,Ø1,f2,Ø1
7Ø DATA ed,bØ,21,4Ø,ØØ
8Ø DATA e5,21,ØØ,bb,e5,21
9Ø DATA f2,Ø1,e5,21,Ø7
1ØØ DATA b8,e5,21,bb,Ø2,e5
11Ø DATA f1,21,ea,b1,11,d9
12Ø DATA b1,f3,c9,82,71,66
13Ø MEMORY &2ØØØ
14Ø FOR x=&95ØØ TO &953F
15Ø READ a$
16Ø POKE x,VAL("&"+a$)
17Ø NEXT
18Ø LOAD""
19Ø CALL &3A6A
2ØØ LOAD"!",&2Ø4Ø
21Ø CALL &9513
22Ø END
```

664 and 6128 owners should replace lines 9Ø to 12Ø in the program above with the four following lines.

```
9Ø DATA f2,Ø1,e5,21,1f
1ØØ DATA b1,e5,21,bb,Ø2,e5
11Ø DATA f1,21,e5,b7
12Ø DATA 11,d4,b7,f3,c9
```





BAD CAT
"The graphics used are of a high standard, the events original and the sound is superb." ST USER
Screen shots from Amiga version.
Its the year 1984 and Los Angeles prepares for the Olympic Summer Games. The dignitaries and celebrities prepare their speeches, and await the huge crowds expected to attend. Beware there are still the straying city-dweller cats – despised by all. The infamous cats are well known for they are planning their own competitive games. Will Bad Cat live up to his name?
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Hacker

He's done it again. Yes, **Martin Schroeder** from West Germany has come up with another cracking listing – Hacker. This aptly named program allows you to find infinite lives, infinite energy or infinite time for almost any game you care to mention.

Hacker searches through a program and looks for certain routines – which could be associated with lives, energy or time – and then prints (to either screen or printer) the most likely POKEs. Martin's program may list a large number of different POKEs. Some won't do anything. Others will affect different parts of the game (and may even crash it). The correct POKE will be lurking among the others listed; it's just a matter of weeding through them all until you find the right one.

You must supply Hacker with the name of the file you wish to search. To list the POKEs to screen simply enter `a$="filename":CALL &AFØØ,@a$`. IF you wish a printer dump then `a$="filename":CALL &BØ23,@a$` will do the trick. For instance, if you have a program with a file name, `code2.bin`:

```
a$="code2.bin":CALL &AFØØ,@a$
```

then press the return key. A list of POKEs will appear:

```
POKE &Ø57Ø,Ø Ø1
POKE &1337,Ø Ø1
POKE &4589,Ø Ø2
```

Forget about the last two digits (which will either be Ø1, Ø2 or Ø3), they simply refer to the type of routine Hacker encountered. Make a note of all the POKEs. Insert one of the POKEs listed in to the game's loader and run it. Keep doing this until you come up with a useful POKE. It works well, we have managed to find cheats for several games using this method.

```
1 ' Hacker
2 ' by Martin Schroeder
3 ' Amstrad Action  March 88
1Ø MODE 2:f$=CHR$(13)+CHR$(1Ø):adr=448ØØ:steps=34
2Ø FOR loop=1 TO steps:check=Ø
3Ø FOR q=1 TO 1Ø:READ a$:a=VAL("&"+a$)
4Ø POKE adr+(loop-1)*1Ø+q-1,a:check=check+a:NEXT
5Ø READ checks$:checks=VAL("&"+checks$)
6Ø IF checks<>check THEN 17Ø
7Ø LOCATE 1,2:PRINT"checking line:";18Ø+(loop-1)*1Ø:NEXT
8Ø MODE 2:PRINT"HACKER V1.Ø  (c) 1987 M.Schroeder";f$;f$;
9Ø PRINT"Please insert a disc then press any key"CHR$(7)":"
1ØØ CALL &BB18:PRINT:PRINT" saving HACKER.BIN . . ."
11Ø SAVE"hacker",b,&AFØØ,&16Ø
12Ø PRINT:PRINT"For screen type: "
13Ø PRINT "name$=";CHR$(34);"filename";CHR$(34);":CALL ";
14Ø PRINT "&AFØØ,@name$": PRINT:PRINT"For printer type: "
15Ø PRINT "name$=";CHR$(34);"filename";CHR$(34);":CALL ";
16Ø PRINT "&BØ23,@name$":END
17Ø PRINT"Data Error in line ";18Ø+(loop-1)*1Ø;CHR$(7):END
18Ø DATA CD,Ø4,BØ,D5,C5,CD,DF,AF,D1,E1,728
19Ø DATA D5,7E,FE,3A,CC,41,AF,FE,21,CC,632
2ØØ DATA 53,AF,FE,Ø5,CC,66,AF,FE,46,CC,5F6
21Ø DATA 79,AF,FE,3D,CC,5B,AF,D1,E5,CD,6BC
22Ø DATA Ø9,BB,3Ø,Ø3,CD,18,BB,E1,23,1B,3B6
23Ø DATA B3,7A,FE,ØØ,28,6C,18,DØ,E5,DD,569
24Ø DATA E1,DD,7E,Ø3,C9,CD,3A,AF,FE,3D,5F9
25Ø DATA 28,Ø1,C9,23,23,23,3E,Ø2,CD,84,2EC
26Ø DATA AF,ØØ,C9,CD,3A,AF,FE,35,28,EF,578
27Ø DATA C9,3E,Ø1,18,15,E5,DD,E1,DD,7E,533
28Ø DATA Ø1,C9,FE,7Ø,28,Ø8,DD,7E,Ø2,FE,4C3
29Ø DATA 43,28,Ø1,C9,3E,Ø3,CD,84,AF,23,399
3ØØ DATA C9,CD,5F,AF,FE,Ø5,28,Ø1,C9,23,4BC
31Ø DATA 18,EE,E5,32,1F,BØ,21,AF,AF,Ø6,471
32Ø DATA Ø6,CD,B8,AF,E1,E5,CD,CØ,AF,21,65D
33Ø DATA B5,AF,Ø6,Ø3,CD,B8,AF,3A,1F,BØ,4AA
34Ø DATA CD,C9,AF,E1,3E,ØD,CD,5A,BB,3E,591
35Ø DATA ØA,CD,5A,BB,C9,5Ø,4F,4B,45,2Ø,4Ø4
36Ø DATA 26,2C,3Ø,2Ø,7E,CD,5A,BB,23,1Ø,335
37Ø DATA F9,C9,7C,CD,C9,AF,7D,CD,C9,AF,745
38Ø DATA C9,F5,1F,1F,1F,1F,CD,D2,AF,F1,579
39Ø DATA E6,ØF,FE,ØA,38,Ø2,C6,Ø7,C6,3Ø,3FA
4ØØ DATA C3,5A,BB,21,EC,AF,Ø6,18,CD,B8,537
41Ø DATA AF,CD,A4,AF,18,B8,54,72,79,2Ø,4FE
42Ø DATA 74,68,65,2Ø,66,6F,6C,6C,6F,77,3F4
43Ø DATA 69,6E,67,2Ø,5Ø,4F,4B,45,73,3A,33A
44Ø DATA DD,66,Ø1,DD,6E,ØØ,46,23,5E,23,379
45Ø DATA 56,EB,CD,77,BC,C5,D5,EB,CD,83,716
46Ø DATA BC,CD,7A,BC,D1,C1,C9,Ø3,ØØ,ØØ,51D
47Ø DATA ØØ,21,5A,BB,E5,11,2Ø,BØ,Ø1,Ø3,3ØØ
48Ø DATA ØØ,ED,BØ,E1,3E,C3,77,21,48,BØ,5ØF
49Ø DATA 22,5B,BB,CD,ØØ,AF,21,2Ø,BØ,11,3B6
5ØØ DATA 5A,BB,Ø1,Ø3,ØØ,ED,BØ,C9,CD,2E,47A
51Ø DATA BD,38,FB,FE,ØD,C8,C3,2B,BD,ØØ,56E
```

Getting technical

Martin's program will watch out for three types of routine:

```
1. LD A, (xxxx)    2. LD HL,xxxx    3. LD B,(HL)
   DEC A              DEC (HL)         DEC B
   LD (xxxx),A                         LD (HL),B
```

Every POKE that Hacker lists will have a number following it. This corresponds to the routine found. By taking note of the values after the POKE you can determine which POKEs are of no use to you.

Amstrad abstracts

M Jefferey from Mangotsfield in Bristol has written an interesting routine that draws weird and wonderful patterns on the screen. The program will prompt you for a number; values between -4 and 4 are best.

```
1 ' Amstrad abstracts
2 ' by Matthew Jeffery
3 ' Amstrad Action  March 88
1Ø MODE 2:INPUT z:x=64Ø
2Ø MOVE 32Ø+2ØØ*SIN(y+5Ø),2ØØ+2ØØ*COS(x)
3Ø FOR y=1 TO 36Ø:x=x-z
4Ø DRAW 32Ø+2ØØ*SIN(y+5Ø),2ØØ+2ØØ*COS(x)
5Ø NEXT y
```

Streamer

Unfortunately several lines of Streamer – which appeared in issue 28 of Amstrad Action – were chopped off. The offending lines are:

```
935 DATA 1E,91,F1,4F,Ø6,ØØ,ED,BØ,3E,ØB,3DB
94Ø DATA 21,1C,91,11,32,ØØ,CD,9E,BC,21,359
945 DATA ØØ,4Ø,11,ØØ,12,3E,16,CD,9E,BC,2DE
95Ø DATA C9,3E,ØB,21,1C,91,11,32,ØØ,CD,2FØ
955 DATA A1,BC,21,1E,91,11,ØØ,A1,3A,1C,335
96Ø DATA 91,4F,Ø6,ØØ,ED,BØ,C9,3E,16,21,3C1
965 DATA ØØ,4Ø,11,ØØ,12,CD,A1,BC,C9,DD,433
97Ø DATA 46,ØØ,DD,56,Ø4,DD,5E,Ø2,C9,CD,45Ø
975 DATA C7,9Ø,21,ØØ,AØ,3A,ØØ,A1,4F,DF,421
98Ø DATA 6D,9Ø,C9,CD,C7,9Ø,DD,21,ØØ,A1,589
985 DATA 21,ØØ,4Ø,E5,D5,C5,DD,7E,ØØ,4F,48A
99Ø DATA DD,E5,DF,6A,9Ø,DD,E1,DD,23,C1,71A
995 DATA D1,E1,24,24,1Ø,E9,C9,3E,9E,32,4CA
1ØØØ DATA ØF,91,21,ØØ,95,11,14,ØØ,3E,21,1DA
1ØØ5 DATA C3,9E,BC,3E,A1,32,ØF,91,18,EE,4D4
```

Lean letters

The character set used in Mode Ø is chunky. **Michael Smith** from Banbury in Oxon has produced an alternative slim-line version. The smaller size of Michael's character set means a maximum of 32 characters can fit across the screen rather than 2Ø.

Characters between 215 and 25Ø have been redefined. This means that both the normal set and the slim-line set can be used simultaneously on screen.

When run, the listing displays the two character sets side by side. You will notice that the spacing between the two is identical. To change the spacing between letters of the thin set you will need to use the **TAG** command. For example:

```
1Ø TAG:x=Ø:y=294:ORIGIN x,y:PRINT CHR$(215);
2Ø y=y+23:ORIGIN x,y:PRINT CHR$(216);:TAGOFF
```

TAG tells the computer to print the next character at the graphics cursor (set by **ORIGIN**). This allows you to position text much more accurately. Have a look at line 17Ø to 19Ø, **TAG** is used to print each character of the slim-line font close together.

```
1 ' Lean letters
2 ' by Michael Smith
3 ' Amstrad Action  March 88
1Ø ' <<< SMALL CHARACTER SET >>>
2Ø '
3Ø SYMBOL AFTER 215:FOR n=215 TO 25Ø:READ a,b,c,d,e
4Ø SYMBOL n,Ø,Ø,Ø,a,b,c,d,e:NEXT n:MODE Ø
5Ø '
6Ø ' << DISPLAY CHARACTER SET >>
7Ø '
8Ø PRINT:FOR n=215 TO 25Ø:PRINT CHR$(n);:NEXT
9Ø '
1ØØ ' << DISPLAY NORMAL SET >>
11Ø '
12Ø PRINT:PRINT:FOR n=48 TO 57:PRINT CHR$(n);:NEXT
13Ø FOR n=65 TO 9Ø:PRINT CHR$(n);:NEXT
14Ø '
15Ø ' <<  EXAMPLE USE OF CHARACTERS >>
16Ø '
17Ø x=Ø:y=294:TAG:FOR t=215 TO 242:ORIGIN x,y:PRINT CHR$(t);
18Ø x=x+23:NEXT:x=Ø:y=278:FOR t=243 TO 25Ø:ORIGIN x,y
19Ø PRINT CHR$(t);:x=x+23:NEXT:LOCATE 1,24:TAGOFF
2ØØ LOCATE 1,24
21Ø '
22Ø ' < DATA FOR CHARACTERS 1-Ø >
23Ø '
24Ø DATA 96,144,144,144,96,192,64,64,64,224,96,144,32,64
25Ø DATA 24Ø,224,16,224,16,224,32,96,16Ø,24Ø,32,24Ø,128,224
26Ø DATA 16,224,96,128,224,144,96,24Ø,144,32,64,64,96,144
```

Dropout

You'll need fast reflexes if you want to win at Dropout. **Paul Robson** from Middlesbrough in Cleveland is the man that programmed the game. The idea is simple: clear a path through the brickwork for a ball to fall through. It may sound easy, but time is against you.

By using a joystick you may move a pointer up, down, left or right. Press 1 or 2 to select the level.

```
1 ' Dropout
2 ' by Paul Robson
3 ' Amstrad Action  March 88
1Ø GOSUB 89Ø
2Ø GOSUB 8ØØ
3Ø dir=246:a=2:b=4:t=Ø
4Ø PEN 12:LOCATE 16,23:PRINT c$(lev)
5Ø LOCATE 6,1:PEN 4:PRINT USING":###":beat
6Ø '* HOLES,BALL
7Ø FOR f=4 TO 17
8Ø IF lev=1 THEN r%=RND*9+6 ELSE r%=RND*17+2
9Ø IF f=4 AND r%=2 THEN 8Ø
1ØØ LOCATE r%,f:PRINT" "
11Ø x(r%,f)=1
12Ø NEXT
13Ø bv=3:IF lev=1 THEN bh%=RND*7+7 ELSE bh%=RND*15+3
14Ø LOCATE bh%,bv:PEN 4:PRINT "@"
15Ø '* MAIN LOOP
16Ø WHILE bv<17
17Ø PEN 1:LOCATE a,b:PRINT b$;CHR$(dir):a$
18Ø IF INKEY(74)=Ø THEN z=-1:dir=247
19Ø IF INKEY(75)=Ø THEN z=1:dir=246
2ØØ IF z=-1 AND a>3 AND x(a-1,b)<>2 OR z=1 AND a<18 AND
    x(a+1,b)<>2 THEN GOSUB 66Ø:z=Ø
21Ø IF z=-1 AND a=3 OR z=1 AND a=18 THEN i=1:GOSUB 66Ø:
    a=a+z:IF x(a,b)=1 THEN x(a,b)=Ø:x(ABS(a-21),b)=1:LOCATE
    ABS(a-21),b:GOSUB 74Ø:z=Ø ELSE GOSUB 75Ø:z=Ø
22Ø IF z=-1 AND a=2 OR z=1 AND a=19 THEN i=1:GOSUB 66Ø:
    a=ABS(a-21):GOSUB 75Ø:GOSUB 69Ø:z=Ø
23Ø IF INKEY(72)=Ø AND x(a,b-1)=Ø AND b>4 THEN y=-1:i=1:
    GOSUB 75Ø:b=b+y:GOSUB 77Ø
24Ø IF INKEY(73)=Ø AND x(a,b+1)=Ø AND b<17 THEN y=1:i=1:
    GOSUB 75Ø:b=b+y:GOSUB 77Ø
25Ø IF x(bh%,bv+1)=1 THEN GOSUB 6ØØ:x(bh%,bv)=2:IF bv<17
    AND x(bh%,bv+1)=Ø THEN SOUND 4,bv*5Ø,Ø,1,1,1
26Ø IF INKEY(67)=Ø THEN 52Ø
27Ø t=t+1:PEN 4:LOCATE 16,1:PRINT USING":###":t:SOUND
1,t,3,7
28Ø IF t>899 THEN 45Ø
29Ø WEND
3ØØ '* DROP BALL-DOWN
31Ø WHILE x(bh%,bv+1)=Ø
```

```
27Ø DATA 96,144,96,96,144,112,16,16
28Ø '
29Ø ' < DATA FOR CHARACTERS A-Z >
3ØØ '
31Ø DATA 96,144,24Ø,144,144,224,144,224,144,224
32Ø DATA 112,128,128,128,112,224,144,144,144,224
33Ø DATA 24Ø,128,24Ø,128,24Ø,24Ø,128,24Ø,128,128
34Ø DATA 24Ø,128,176,144,24Ø,144,144,24Ø,144,144
35Ø DATA 224,64,64,64,224,248,32,32,32,224
36Ø DATA 144,16Ø,192,16Ø,144,128,128,128,128,24Ø
37Ø DATA 248,168,168,168,168,136,2ØØ,168,152,136
38Ø DATA 96,144,144,144,96,24Ø,144,24Ø,128,128
39Ø DATA 96,144,144,96,16,24Ø,144,24Ø,16Ø,144
4ØØ DATA 24Ø,128,24Ø,16,24Ø,248,32,32,32,32
41Ø DATA 144,144,144,144,96,136,136,8Ø,8Ø,32
42Ø DATA 168,168,168,168,8Ø,136,8Ø,32,8Ø,136
43Ø DATA 136,136,8Ø,32,32,24Ø,16,32,64,24Ø
```

```
32Ø IF bv=25 THEN 43Ø
33Ø GOSUB 6ØØ
34Ø WEND
35Ø SOUND 4,bv*5Ø,Ø,1,1,1
36Ø '* DROP BALL-DIAG.
37Ø IF bh%<1Ø THEN z=1:e=11 ELSE z=-1:e=1Ø
38Ø WHILE bh%<>e:set=1
39Ø IF bv=25 THEN 43Ø
4ØØ GOSUB 6ØØ
41Ø WEND
42Ø '* END+SCORE
43Ø set=Ø:SOUND 4,4ØØØ,Ø,1,1,1
44Ø LOCATE 1Ø,25:PRINT SPC(2)
45Ø IF t>=beat THEN 52Ø
46Ø beat=t
47Ø FOR f=4Ø TO 1 STEP -1
48Ø SOUND 4,f*1Ø,6,7
49Ø LOCATE 16,1:PEN 4:PRINT t
5ØØ LOCATE 16,1:PEN 3:PRINT t
51Ø NEXT
52Ø GOSUB 8ØØ
53Ø '* CLEAR X
54Ø FOR f=2 TO 19:FOR g=4 TO 17
55Ø x(f,g)=Ø:NEXT:NEXT
56Ø '* CLS+NEW SCREEN
57Ø CALL &A8Ø4
58Ø CALL &A7F8:GOTO 3Ø
59Ø '* DROP BALL
6ØØ LOCATE bh%,bv:PRINT" "
61Ø bv=bv+1
62Ø IF set=1 THEN bh%=bh%+z
63Ø PEN 4:LOCATE bh%,bv:PRINT"@"
64Ø RETURN
65Ø '* DELETE ARROW
66Ø PEN b-2:LOCATE a,b:PRINT CHR$(143)
67Ø IF i=1 THEN i=Ø:RETURN
68Ø a=a+z
69Ø IF x(a,b)=1 THEN GOSUB 72Ø
7ØØ RETURN
71Ø '* REPRINT HOLE+ARROW
72Ø x(a,b)=Ø:x(a+z,b)=1
73Ø LOCATE a+z,b
74Ø PRINT " "
75Ø LOCATE a,b:PEN b-2:PRINT CHR$(143)
76Ø IF i=1 THEN i=Ø:RETURN
77Ø LOCATE a,b:PEN 1:PRINT b$;CHR$(dir);a$
78Ø RETURN
79Ø '* START NEW GAME
8ØØ LOCATE 2,23:PEN 12:PRINT"Level":IF st=Ø THEN lev=1:
    beat=25Ø:LOCATE 16,23:PRINT c$(1)
81Ø IF INKEY(64)=Ø THEN lev=1:beat=25Ø
82Ø IF INKEY(65)=Ø THEN lev=2:beat=5ØØ
83Ø PEN 12:LOCATE 16,23:PRINT c$(lev);"?"
84Ø PEN 4:LOCATE 2,25:PRINT"PRESS":LOCATE 14,25:
    PRINT CHR$(167);"FIRE'"
85Ø IF INKEY(76)=-1 THEN 81Ø
86Ø IF st=Ø THEN st=1:LOCATE 2,25:PRINT SPC(5):LOCATE 14,25:
    PRINT SPC(6):GOSUB 124Ø:LOCATE 19,23:PRINT" "
87Ø RETURN
88Ø '* INKS,SCREEN,M/C
89Ø a$=CHR$(22)+CHR$(Ø):b$=CHR$(22)+CHR$(1):c$(1)=CHR$(24)
    +"1"+CHR$(24)+"/2":c$(2)="1/"+CHR$(24)+"2"+CHR$(24)
9ØØ DIM x(2Ø,26)
91Ø MODE Ø:INK Ø,Ø:BORDER Ø:INK 1,Ø:INK 5,15:INK 13,24:
    INK 14,26:INK 15,15
92Ø ENV 1,1Ø,-1,1Ø:ENT 1,5Ø,4,1
93Ø IF HIMEM<>&3FFF THEN SYMBOL AFTER 64:
    SYMBOL 64,Ø,24,6Ø,126,126,126,6Ø,24
94Ø LOCATE 2,2:PEN 6:PRINT STRING$(19,2Ø7)
95Ø LOCATE 1,2:PRINT CHR$(222):LOCATE 2Ø,2:PRINT CHR$(223)
96Ø FOR f=3 TO 17
97Ø LOCATE 1,f:PRINT CHR$(2Ø7)
98Ø LOCATE 2Ø,f:PRINT CHR$(2Ø7)
99Ø NEXT
1ØØØ LOCATE 1,18:PRINT CHR$(221):LOCATE 2Ø,18:PRINT CHR$(22Ø)
1Ø1Ø LOCATE 2,18:PRINT STRING$(2,2Ø7):LOCATE 18,18:
     PRINT STRING$(2,2Ø7)
1Ø2Ø lft=3:rgt=18
1Ø3Ø FOR f=18 TO 24
1Ø4Ø x(lft,f)=1
1Ø5Ø LOCATE lft,f:PRINT CHR$(223):LOCATE lft,f+1:
     PRINT CHR$(221)
1Ø6Ø x(rgt,f)=1
1Ø7Ø LOCATE rgt,f:PRINT CHR$(222):LOCATE rgt,f+1:
     PRINT CHR$(22Ø)
1Ø8Ø lft=lft+1:rgt=rgt-1
1Ø9Ø NEXT
11ØØ LOCATE 9,25:PRINT CHR$(2Ø7):LOCATE 12,25:PRINT CHR$(2Ø7)
111Ø p=2:FOR f=4 TO 17
112Ø LOCATE 2,f:PEN p
113Ø PRINT STRING$(18,143):p=p+1
114Ø NEXT
115Ø GOSUB 124Ø
116Ø LOCATE 2,1:PEN 13:PRINT"BEAT";SPC(6);"TIME"
117Ø MEMORY &3FFF:RESTORE 12ØØ
118Ø FOR f=&A7F8 TO &A811
119Ø READ d$:POKE f,VAL("&"+d$):NEXT
12ØØ DATA 21,Ø,CØ,11,Ø,4Ø,1,Ø,4Ø,ED,BØ,C9,21
12Ø5 data Ø,CØ,11,1,CØ,1,FF,3F,36,Ø,ED,BØ,C9
121Ø CALL &A7F8
122Ø POKE &A7FA,&4Ø:POKE &A7FD,&CØ
123Ø RETURN
124Ø LOCATE 2,23:PEN 5:PRINT CHR$(24);"Q";CHR$(24);"uit "
125Ø RETURN
```

Stipple

This program from **James Cadwallader** in Gosport, Hants, demonstrates how well different colours will mix. This is great if you are designing screens or sprites and need to know what certain colour combinations look like on screen.

You must supply the program with the mode and colours that you intend using.

```
1 ' Stipple
2 ' by James Cadwallader
3 ' Amstrad Action  March 88
1Ø DEFINT a-z:MODE 1
3Ø ON BREAK GOSUB 26Ø
4Ø DIM inks(15):PAPER Ø:MODE 1
6Ø INPUT "Mode :",mde:MODE mde:IF mde=Ø THEN most=15 ELSE
   IF mde=1 THEN most=3 ELSE most=1
7Ø IF mde<Ø OR mde>2 THEN RUN
8Ø FOR i=Ø TO most:PRINT STRING$(1Ø,32);STRING$(1Ø,8);
9Ø PRINT "Pen";i;:LOCATE 8,i+1:INPUT ":",inks(i)
1ØØ IF inks(i)>26 THEN PRINT CHR$(11);:GOTO 9Ø
11Ø NEXT:FOR x=Ø TO most:INK x,inks(x):NEXT
15Ø FOR col1=Ø TO most:FOR col2=col1 TO most
17Ø PEN col1:PAPER col2
18Ø IF col1<>col2 THEN PRINT STRING$(8Ø,2Ø7);STRING$(8Ø,8);
    MID$(STR$(inks(col1)),2);"&";MID$(STR$(inks(col2)),2);
    STRING$(8Ø-LEN(MID$(STR$(inks(col1)),2))-LEN(MID$(STR$
    (inks(col2)),2))-1,9);
19Ø NEXT col2,col1:PRINT CHR$(7);:WHILE INKEY$="":WEND
22Ø CALL &BCØ2:PEN 1
24Ø run
26Ø CALL &BCØ2:MODE 2:PEN 1:PAPER Ø:LIST
```

Reset

Alastair Scott from Grangemouth, Stirling, has provided you with a clever
routine that resets the inks and mode to their default values at the touch of a key.

When the control and copy keys are held down together the ink values will return to normal. The routine works under interrupt which means you won't know it's there until you activate it by pressing the two keys. Reset even works from certain games and business software.

```
1 ' Reset
2 ' by Alastair Scott
3 ' Amstrad Action  March 88
1Ø FOR a=&BØØØ TO &BØ26:READ a$:POKE a,VAL("&"+a$)
2Ø NEXT:CALL &BØØØ
3Ø DATA Ø1,FF,81,11,ØC,BØ,21,27,BØ,C3,EØ,BC,3E,Ø9,CD
4Ø DATA 1E,BB,C8,79,FE,8Ø,CØ,3E,Ø1,CD,ØE,BC,3E,Ø1,CD
5Ø DATA 9Ø,BB,AF,CD,96,BB,C3,Ø2,BC
```

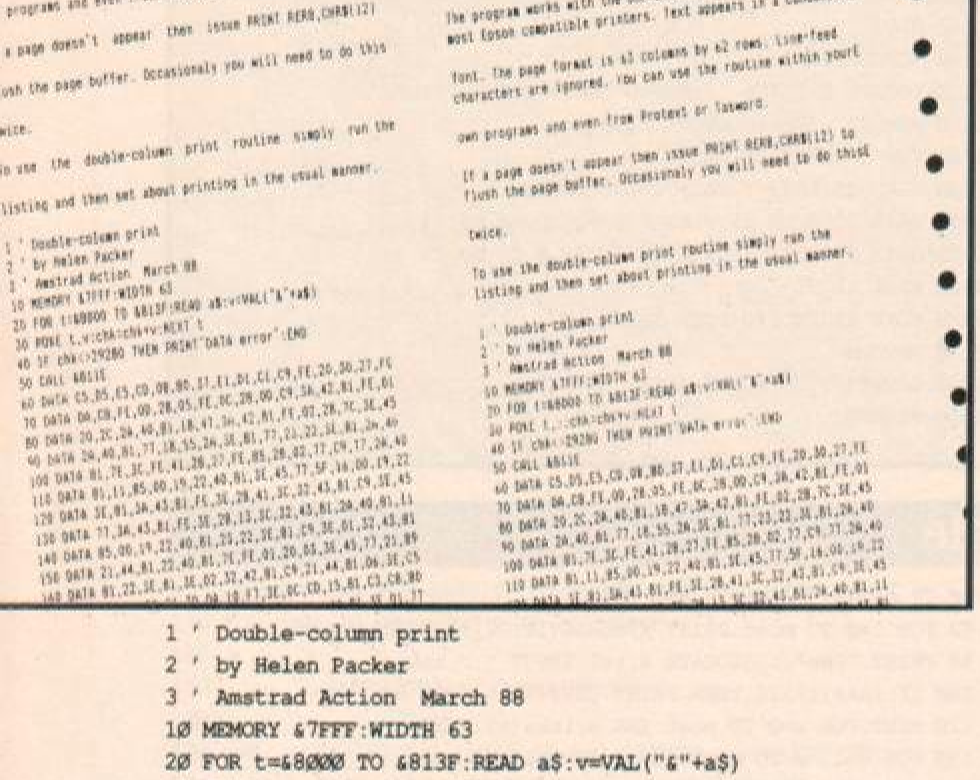
Double-column print

Here's a handy routine sent in by **Helen Packer** of Greenfield in Middlesex. Text issued to the printer will appear on the page in two columns. This saves an enormous amount of paper and can make a page very appealing.

The program works with the DMP 2ØØØ and should work with most Epson compatible printers. Text appears in a condensed font. The page format is 63 columns by 62 rows. Line-feed characters are ignored. You can use the routine within your own programs and even from Protext or Tasword.

If a page doesn't appear then issue **PRINT #8,CHR$(12)** to flush the page buffer. Occasionally you will need to do this twice.

To use the double-column print routine simply run the listing and then set about printing in the usual manner.



```
1 ' Double-column print
2 ' by Helen Packer
3 ' Amstrad Action  March 88
1Ø MEMORY &7FFF:WIDTH 63
2Ø FOR t=&8ØØØ TO &813F:READ a$:v=VAL("&"+a$)
3Ø POKE t,v:chk=chk+v:NEXT t
4Ø IF chk<>2928Ø THEN PRINT"DATA error":END
5Ø CALL &811E
6Ø DATA C5,D5,E5,CD,ØB,8Ø,37,E1,D1,C1,C9,FE,2Ø,3Ø,27,FE
7Ø DATA ØA,C8,FE,ØD,28,Ø5,FE,ØC,28,ØD,C9,3A,42,81,FE,Ø1
8Ø DATA 2Ø,2C,2A,4Ø,81,18,47,3A,42,81,FE,Ø2,28,7C,3E,45
9Ø DATA 2A,4Ø,81,77,18,55,2A,3E,81,77,23,22,3E,81,2A,4Ø
1ØØ DATA 81,7E,3C,FE,41,28,27,FE,85,28,Ø2,77,C9,77,2A,4Ø
11Ø DATA 81,11,85,ØØ,19,22,4Ø,81,3E,45,77,5F,16,ØØ,19,22
12Ø DATA 3E,81,3A,43,81,FE,3E,28,41,3C,32,43,81,C9,3E,45
13Ø DATA 77,3A,43,81,FE,3E,28,13,3C,32,43,81,2A,4Ø,81,11
14Ø DATA 85,ØØ,19,22,4Ø,81,23,22,3E,81,C9,3E,Ø1,32,43,81
15Ø DATA 21,44,81,22,4Ø,81,7E,FE,Ø1,2Ø,Ø3,3E,45,77,21,89
16Ø DATA 81,22,3E,81,3E,Ø2,32,42,81,C9,21,44,81,Ø6,3E,C5
17Ø DATA CD,FØ,8Ø,C1,3Ø,ØA,1Ø,F7,3E,ØC,CD,15,81,C3,C8,8Ø
18Ø DATA 3E,ØC,CD,15,81,C3,C8,8Ø,Ø6,3E,21,44,81,3E,Ø1,77
19Ø DATA 48,Ø6,84,3E,2Ø,23,77,1Ø,FC,41,23,1Ø,FØ,21,44,81
2ØØ DATA 22,4Ø,81,23,22,3E,81,3E,Ø1,32,42,81,32,43,81,C9
21Ø DATA E5,7E,B7,28,19,23,47,7E,CD,15,81,23,1Ø,F9,E1,11
22Ø DATA 85,ØØ,19,3E,ØD,CD,15,81,3E,ØA,CD,15,81,C9,E1,11
23Ø DATA 85,ØØ,19,B7,C9,CD,1B,81,D8,18,FA,ØØ,ØØ,ØØ,3E,ØF
24Ø DATA CD,2B,BD,21,2B,BD,11,1B,81,Ø1,Ø3,ØØ,ED,BØ,21,2B
25Ø DATA BD,3E,C3,77,23,11,ØØ,8Ø,73,23,72,C3,C8,8Ø,ØØ,ØØ
```

MoneyMate

Can't keep control of your money? You need MoneyMate. **Karl Stokes** from Ossett in West Yorkshire is the man to bring you this lengthy listing. MoneyMate is extremely useful if you want to keep record of your cash accounts and your cashcard numbers.

MoneyMate allows you to keep track of your bank and building society numbers, and the current balance. It also gives you the option of recording the amount of cash you have in your moneybox at home. A total of all monies can be added together and displayed.

If you select either the bank or building society option, you will be prompted for a password. This is to protect information regarding your card numbers from prying eyes. To change this password simply alter the word held in **cass$** in line 770. The rest of the program is self explanatory.

```
1 ' MoneyMate
2 ' by Karl Stokes
3 ' Amstrad Action  March 88
10 num=0:MODE 2:BORDER 0:total=f+a+bf
20 LOCATE 34,2:PRINT"MAIN MENU":LOCATE 33,3
30 PRINT"-----------":LOCATE 30,10:PRINT"1...Moneybox"
40 LOCATE 30,12:PRINT"2...Bank":LOCATE 30,14
50 PRINT"3...Building Society"
60 LOCATE 30,16:PRINT"4...Load":LOCATE 30,18:PRINT"5...Save"
70 LOCATE 30,7
80 PRINT"MONEYBOX=£";a:IF num=1 THEN RETURN
90 LOCATE 31,22:PRINT"TOTAL=£";total
100 LOCATE 8,14
110 PRINT"BANK=£";bf:IF num=3 THEN RETURN
120 LOCATE 60,14
130 PRINT"B/S=£";f:IF num=3 THEN RETURN
140 PLOT 213,318:DRAW 390,318:DRAW 390,277:DRAW 213,277:
    DRAW 213,318:IF num=5 THEN RETURN
150 PLOT 213,79:DRAW 390,79:DRAW 390,36:DRAW 213,36:
    DRAW 213,79:LOCATE 31,22:IF num=1 THEN GOTO 80 ELSE IF
    num=4 THEN RETURN
160 IF num=2 THEN GOTO 30
170 IF num=3 AND dif=0 THEN GOTO 130 ELSE IF num=3 AND
    dif=1 THEN GOTO 110
180 PLOT 455,206:DRAW 593,206:DRAW 593,165:DRAW 455,165:
    DRAW 455,206:IF num=3 THEN RETURN ELSE IF num=5
    THEN RETURN
190 PLOT 42,206:DRAW 185,206:DRAW 185,165:DRAW 42,165:
    DRAW 42,206:IF num=3 THEN RETURN ELSE IF NUM=5
    THEN RETURN
200 a$=INKEY$:IF a$="" THEN 200
210 IF a$="1" THEN GOSUB 260
220 IF a$="2" THEN dif=1:GOSUB 450
230 IF a$="3" THEN dif=0:GOSUB 450
240 IF a$="4" THEN GOSUB 1040
250 IF a$="5" THEN GOSUB 1120 ELSE GOTO 200
260 CLS
270 LOCATE 32,2:PRINT"MONEY MENU":LOCATE 31,3
275 PRINT"------------"
```

Fame and fortune

Interested? Yes? Well, if you send us your programming masterpieces and they subsequently get published in these pages you could stand to get £1ØØ. And your name would be seen by thousands of Amstrad addicts. What more could you ask for? Every person whose listing appears in the Type-Ins sections is guaranteed anything from £1Ø to £1ØØ. What's the catch? None. We simply want your listings. Send them – together with your name, and a stamped, addressed, jiffy bag (for return) – to **"Type-Ins", Amstrad Action, Future Publishing Ltd, 4 Queen Street, Bath, BA1 1EJ.**

If you plan to send a listing to be considered for publication, here are a few pointers:

- Make sure it's your own original work and has not been printed in, or submitted to, any other magazine.
- Use lower-case rather than capitals for variable names.
- REM statements make the program easier to understand.
- Do not use letters that look like numbers as variable names (O and Ø, l and 1 for example).
- Structure your program – divide it into sensible procedures.
- Avoid long multi-statement lines. Short lines make debugging easier.
- Please make sure your name and address is on every slip of paper, cassette or disk that you send us.

```
280 LOCATE 30,10:PRINT"1...Add Money"
290 LOCATE 30,12:PRINT"2...Deduct Money"
300 LOCATE 30,14:PRINT"3...Return To Main Menu"
310 num=1:GOSUB 150
320 a$=INKEY$:IF a$="" THEN 320
330 IF a$="1" THEN GOTO 360
340 IF a$="2" THEN GOTO 400
350 IF a$="3" THEN GOTO 10 ELSE GOTO 320
360 CLS:GOSUB 150
370 LOCATE 2,2:INPUT"How much do you wish to add";b
380 a=a+b
390 GOTO 260
400 CLS:GOSUB 150
410 LOCATE 2,2:INPUT"How much do you wish to deduct";c
420 a=a-c
430 IF a<0 THEN a=0
440 GOTO 260
450 CLS
460 LOCATE 32,2:IF dif=1 THEN GOTO 480
470 PRINT"BUIL.SOC. MENU":LOCATE 31,3:
    PRINT"----------------":GOTO 490
480 PRINT"BANK MENU":LOCATE 31,3:PRINT"-----------"
490 LOCATE 30,10:PRINT"1...Cash In Money"
500 LOCATE 30,12:PRINT"2...Withdraw Cash"
510 LOCATE 30,14:PRINT"3...Account number"
520 LOCATE 30,16:PRINT"4...Card-Cash"
530 LOCATE 30,18:PRINT"5...Return To Main Menu"
540 num=3:GOSUB 150:GOSUB 190:GOSUB 180
550 LOCATE 8,11:PRINT"Account Number":LOCATE 8,14:
    IF dif=1 THEN PRINT bi$ ELSE PRINT si$
560 LOCATE 58,11:PRINT"C.Cash Account No.":LOCATE 60,14:
    IF dif=1 THEN PRINT bcad$ ELSE PRINT scad$
570 a$=INKEY$:IF a$="" THEN 570
580 IF a$="1" THEN GOTO 630
590 IF a$="2" THEN GOTO 670
600 IF a$="3" THEN GOTO 720
610 IF a$="4" THEN GOTO 760
620 IF a$="5" THEN GOTO 1030 ELSE 570
630 CLS:GOSUB 150
640 LOCATE 2,2:INPUT"How much do you wish to add";g
650 IF dif=1 THEN bf=bf+g ELSE f=f+g
660 GOTO 450
670 CLS:GOSUB 150
680 LOCATE 2,2:INPUT"How much do you wish to withdraw";h
690 IF dif=1 THEN bf=bf-h ELSE f=f-h
700 IF f<0 THEN f=0:IF sf<0 THEN sf=0
710 GOTO 450
720 CLS:num=4:GOSUB 150:LOCATE 32,19:PRINT"Account Number":
    LOCATE 32,22:IF dif=1 THEN PRINT bi$ ELSE PRINT si$
730 LOCATE 2,2:INPUT"Enter new account number";i$
740 IF dif=1 THEN bi$=i$ ELSE si$=i$
750 num=3:GOTO 450
760 CLS:LOCATE 2,2:INPUT"Enter Password";pass$
770 IF pass$="password" THEN 780 ELSE GOTO 450
780 CLS:GOSUB 150:GOSUB 140:LOCATE 30,5:PRINT"C.Cash
    Account No.":LOCATE 30,7:IF dif=1 THEN PRINT bcad$
    ELSE PRINT scad$
790 GOSUB 180:LOCATE 58,12:PRINT"Emergency Phone No.":
    LOCATE 60,14:IF dif=1 THEN PRINT bphone$ ELSE
    PRINT sphone$
800 GOSUB 190:LOCATE 10,12:PRINT"P.I.Code":LOCATE 8,14:
    IF dif=1 THEN PRINT bcode$ ELSE PRINT scode$
810 LOCATE 32,2:PRINT"CASH CARD MENU":LOCATE 31,3:
    PRINT"----------------"
820 LOCATE 30,12:PRINT"1...P.I.Code"
830 LOCATE 30,14:PRINT"2...Account Number"
840 LOCATE 30,16:PRINT"3...Emergency Phone No."
850 LOCATE 30,18:PRINT"4...Return To Menu"
860 a$=INKEY$:IF a$="" THEN 860
870 IF a$="1" THEN GOTO 910
880 IF a$="2" THEN GOTO 950
890 IF a$="3" THEN GOTO 990
900 IF a$="4" THEN GOTO 450 ELSE GOTO 860
910 CLS:num=4:GOSUB 150:LOCATE 34,20:PRINT"P.I.Code":
    LOCATE 30,22:PRINT code$
920 LOCATE 2,2:INPUT"What is your new Personal
    Identification number";code$
930 IF dif=1 THEN bcode$=code$ ELSE scode$=code$
940 num=3:GOTO 780
950 CLS:num=4:GOSUB 150:LOCATE 30,20:PRINT"C.Cash Account
    No.":LOCATE 30,22:PRINT cad$
960 LOCATE 2,2:INPUT"What is your new Card Cash account
    number";cad$
970 IF dif=1 THEN bcad$=cad$ ELSE scad$=cad$
980 num=3:GOTO 780
990 CLS:num=4:GOSUB 150:LOCATE 30,20:PRINT"Emergency Phone
    No.":LOCATE 30,22:PRINT phone$
1000 LOCATE 2,2:INPUT"What is your new Emergency
     Telephone number";phone$
1010 IF dif=1 THEN bphone$=phone$ ELSE sphone$=phone$
1020 num=3:GOTO 780
1030 GOTO 10
1040 LOCATE 2,2:PRINT"Sure?(y/n)"
1050 a$=INKEY$:IF a$="" THEN 1050
1060 IF a$="n" THEN GOTO 10
1070 IF a$="y" THEN 1080 ELSE 1050
1080 OPENIN"file"
1090 INPUT #9,a,f,bf,bi$,si$,bcad$,scad$,bphone$,
     sphone$,bcode$,scode$
1100 CLOSEIN
1110 GOTO 10
1120 LOCATE 2,2:PRINT"Sure?(y/n)"
1130 a$=INKEY$:IF a$="" THEN 1130
1140 IF a$="n" THEN GOTO 10
1150 IF a$="y" THEN 1160 ELSE 1130
1160 OPENOUT"file"
1170 WRITE #9,a,f,bf,bi$,si$,bcad$,scad$,bphone$,
     sphone$,bcode$,scode$
1180 CLOSEOUT
1190 GOTO 10
```

AA small ads

FOR SALE

Colour CPC 464, light pen, music machine, £400+ of software including Out Run, Starwars, Gryzor, etc. Sell for £350 (or nearest offer). Tel: 041 881 1253 (Mon-Fri after 2pm).

Rombo Video Digitizer £40, AMX Mouse III £40, Maxam Rom £15, Utopia Rom £15, DDI Second Drive £50, 256K silicon disc £20, 256K memory £20, Grafpad II £40 for CPC 6128. Tel: Woking 756169.

Convert your MP-1 or -2 to give a composite video output signal for direct connection to your video recorder. Parts and instructions £6.99. AC Talbot, 18 Trelawney Parc, St Coloumb, Major Cornwall.

Amstrad CPC 464 colour monitor, joystick, light pen, £350+ of games, instruction book, GAC. Sell for £250. Phone after 6pm (042121) 2547.

Colour CPC 6128, Multiface-2, Protext, Elite, joystick, 45 mags, 40 original games, Midi interface, 20 discs, manual, leads, Datacorder, mint condition. Cost £1000+, Bargain: £475. 0895 33552. (Mark).

CPC 464, colour monitor, £150+ software, joystick, rom card, Cheat Mode & various other programming books. Price around £300 ono. Ask for Steve on Braintree 22099.

CPC 664 with colour monitor, 6 disks and Dragons Lair 2, books, magazines, 11/2 months old, pristine, £250 ono. Phone Dundee 45552 or A Morrison, 5J Baffin Street, Dundee DD4 6EZ.

CPC Business Software: Accounts, VAT, Stock Control, Mailing List/Label Printer plus utilities all on one disc for only £24.95. "Small Business Booster — Has the lot." (AA26). Fully menu-driven & Epson compatible.

Also Sales Invoicing only £14.95 or £9.95 with above pack. add £2.00 P&P Abroad. Cheques, POs or SAE for details: SD MICROSYSTEMS (AA), PO Box 24, Hitchin, Herts. (0462) 675106.

Money from computers. New guide on working with computers. 10 jobs fully explained. Only £2.95. Send cheque/PO (or sae for details) to: Intermedia (AA), 39 Lynchet Close, Brighton BN1 7FP.

Discount Hardware. Cheaper than anywhere else! from dust covers to Eprom programmers. We sell everything. For more information send SAE to Generation Hardware, 45 Blind Lane, Bourne-End, Bucks. SL8 5TN.

Convert your MP-1 or -2 to give a composite video output signal for direct connection to your video recorder. Parts and instructions £6.99. AC Talbot, 18 Trelawney Parc, St Coloumb, Major Cornwall.

WANTED

CPC 6128 colour wanted, will purchase best deal. Phone 042 483 659 (Hastings area).

SERVICES

Tape-to-disc conversions 464/6128: Send original tape(s) plus a disc & 80 Pence per tape (max. 6 tapes per disc) & we will transfer them to disc. Spend £12 or more & a quality disc will be returned FREE. If you want tapes returned add 30 PENCE per tape to the total cost.
ALSO...
Disc Recovery: If by accident, you have erased your programs send your disc Plus £3.00 & we will recover them. State Whether 464/6128. Dr Hudson, 1 Chynoweth, Stenalees, St Austell, Cornwall. Phone 0726 850458.

Have your Amstrad listings typed! Up to 5 for £1.00, up to 10 for £2 etc. Any length. Send SAE, listings, blank cassette. Cheques/PO's to V J Elliott, 30 Coppice Avenue, Harrogate, North Yorkshire.

This section of the magazine offers you the chance to speak directly to the huge waiting world of CPC owners — or would-be owners. Users report good results.

You can place an ad of up to 30 words for just £5. So you could use it to sell a printer or launch a user group or publicize a piece of software you've written.

One thing you can't advertise is the sale or swap of software. Such ads can be misused by pirates.

Fill in the application form and send it to us together with payment. We'll then place the ad in the next available issue (published 2-7 weeks after we receive your order.

Order form *Send to: AA Small ads, Future Publishing Ltd, 4 Queen Street, Bath BA1 1EJ*

Please place the following advertisement in the next available issue of Amstrad Action

Name ______________________

Address ______________________

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I enclose payment of £5.00 by Cheque/P.O./Access/Visa.

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Classification: ☐ For Sale ☐ Wanted ☐ Services ☐ User groups ☐ Other ______

Write your advertisement here, one word per box. Include your name and phone no. if you want them printed

ADVERTISERS INDEX

Q. Which new entertainment software is alluring, addictive, AA raved and available absolutely free of charge on cassette or disk?

A. Any one of these titles when you take out a subscription to Amstrad Action.

Incredible but true. Subscribe to the leading magazine for Amstrad CPC owners and we'll send you your choice of one of the programs on the opposite page for nothing. That means up to £14.99 worth of software free of charge for disk owners. And people who ask for the *cassette* version of the game will *also* get a free copy of the famous 4000-location epic *Lords of Midnight*. (RRP £8.95), making their saving almost £20.

A 12-issue subscription to Amstrad Action costs £16.50, and guarantees a year's supply of your favourite magazine delivered hot off the press direct to your door.

To order, just turn the page and fill in the form, or dial 0458 74011 with your credit card details.

EXTRA SUBSCRIPTION GIFT FOR CASSETTE USERS!

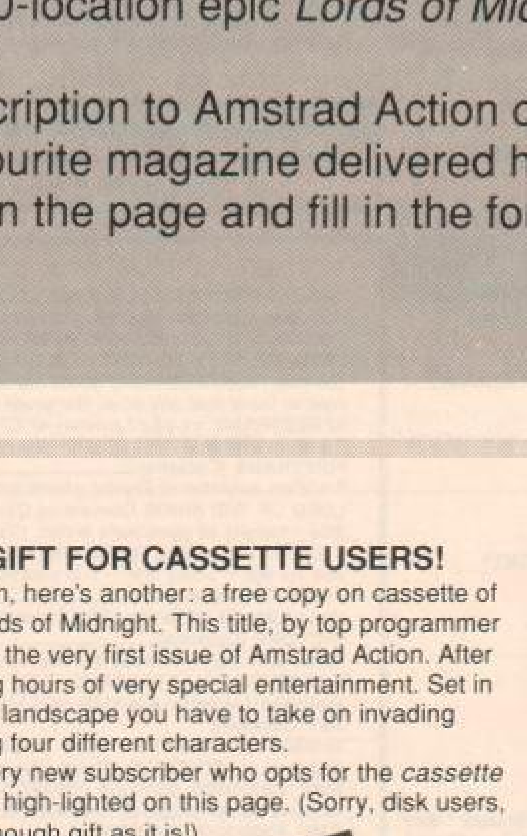
As if one free game wasn't enough, here's another: a free copy on cassette of the huge, multi-character epic Lords of Midnight. This title, by top programmer Mike Singleton, was raved over in the very first issue of Amstrad Action. After two years it's still a classic offering hours of very special entertainment. Set in an immense, beautifully depicted landscape you have to take on invading armies of Doomdark by controlling four different characters.

We'll include it as a bonus to every new subscriber who opts for the *cassette* version of one of the other games high-lighted on this page. (Sorry, disk users, but you're getting an expensive enough gift as it is!)

HOW TO ORDER

Just turn the page and use the order form (the order codes are listed next to the form). Or telephone us with your credit card details on 0458 74192 (24-hour answerphone).

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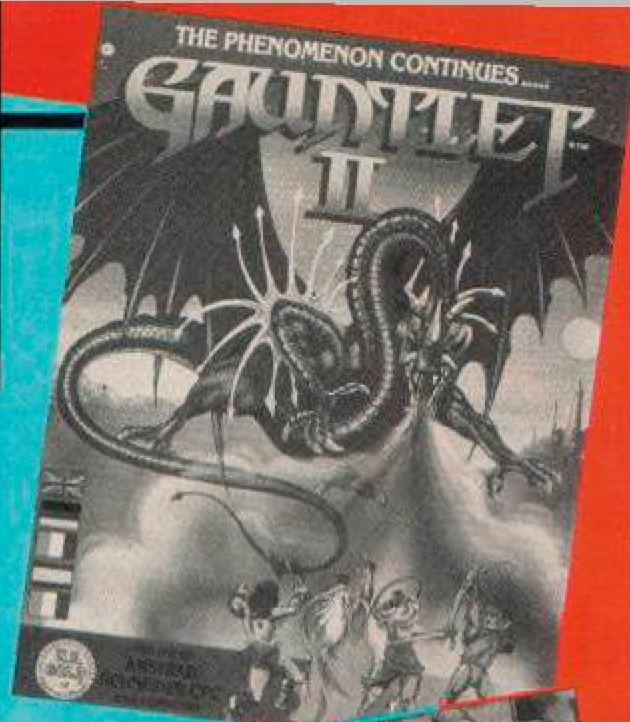
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Normal shop price £9.99 cass, £14.99 disk

• The Atari coin-op now on the CPC range!.
• US Gold's fantastic follow-up is a totally new game.
• Over 100 levels all plagued by the Dragon and the Death Curse of "IT".
• Acquire the strength to move even the maze walls!
• AA Rave - "Powers beyond Belief"!.



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• AA Rave from Ocean.
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• Full-sized playing field, individual player control.
• Jump, head, volley or kick to make a move.
• Be a star!



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• Seven events - plus a penalty stage - to test your nerve.
• Take it to the limit on the firing range, assault course, arm wrestling, chin-ups and more!
• AA Rave from Ocean.
• Lots of thought. Lots of action. But can ***you*** survive? move even the maze walls!
• AA Rave - "Powers beyond Belief"!.



GRYZOR

Normal shop price £8.95 cass, £14.95 disk

• AA Rave from Ocean
• An action-packed coin-op game in three sections.
• Infiltrate the Alien Rebels' headquarters.
• Take on wave after wave of fanatical guerrillas.
• Then destroy the enemy atmosphere processor and mothership.
• PLUS! Free demo of *Combat School!*





HIGHLIGHTER PENS

Three for £1.50

Anyone who uses computers a lot, can make use of highlighter pens. For marking the important lines in a document or printout or program listing. For ensuring a key sentence in a manual isn't forgotten. Or just for highlighting the main points in an Amstrad Action article.

We're offering a set of three different-coloured AA-stamped pens in a clear plastic wallet for just £1.50. They're high-quality and long-lasting. A good way of focussing attention on things that matter.

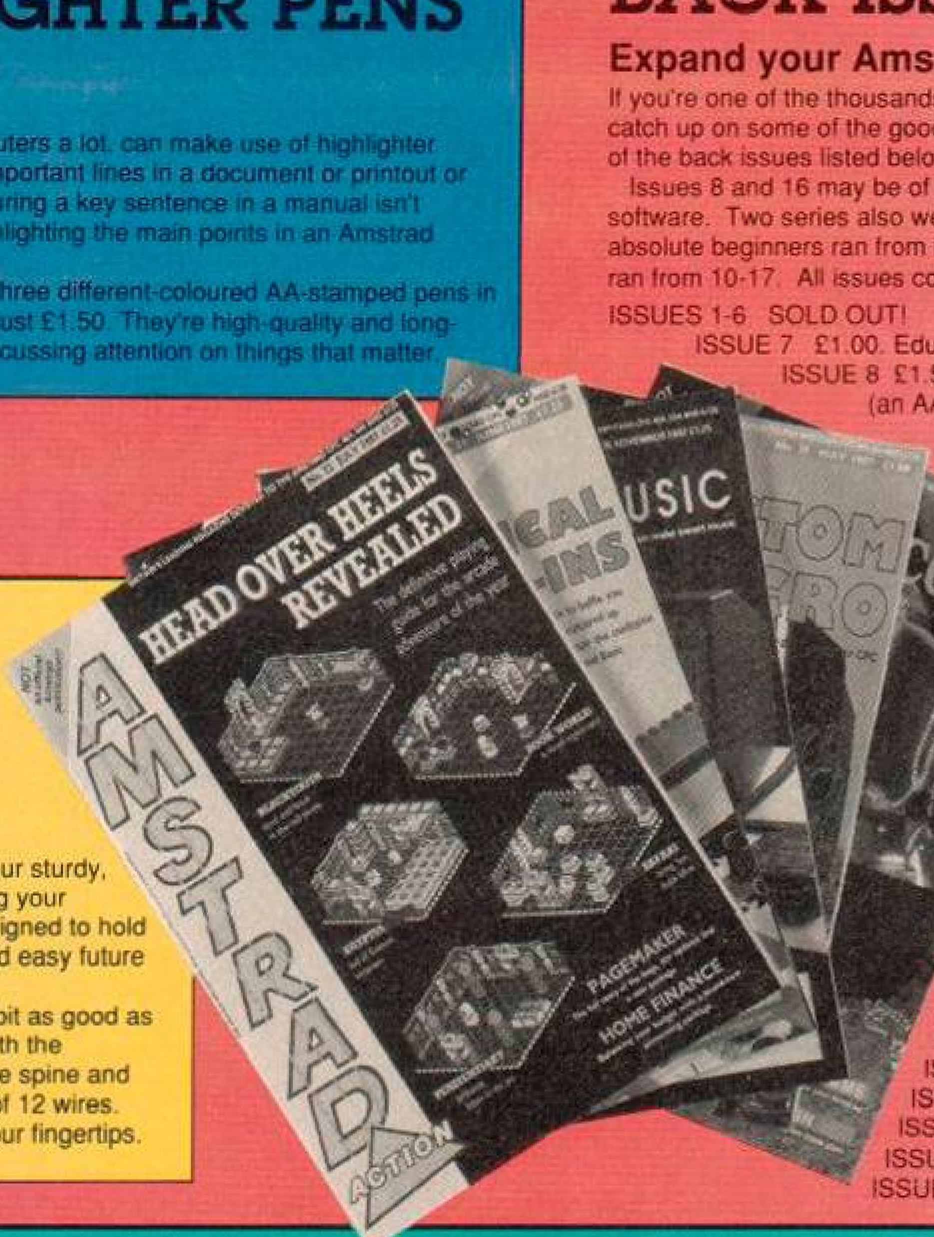
BACK ISSUES

Expand your Amstrad Action col

If you're one of the thousands of readers who've join
catch up on some of the good things you've missed.
of the back issues listed below, which we're selling a

Issues 8 and 16 may be of particular interest, as bo
software. Two series also went down very well. And
absolute beginners ran from issues 8-17, while a ser
ran from 10-17. All issues contain numerous game r

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Amstrad Action is a magazine worth collecting, and our sturdy, custom-built binders provides the best way of keeping your collection tidy and in good condition. Each one is designed to hold 12 copies of AA and preserve them for posterity – and easy future reference.

As well as being functional, the binders look every bit as good as the magazine. They're coloured a smart royal blue with the magazine logo printed in blocked Newvap Gold on the spine and front. Individual magazines are held in place by one of 12 wires.

Buy one and you can have a year of CPC info at your fingertips.

Send this form plus payment to: **AA Mail Order, The Old Barn, Somerton, Somerset, TA11 7PY**

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Address...

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with COMBAT SCH cass*	£16.50	A271
with COMBAT SCH disk	£16.50	A272
with GRYZOR cass*	£16.50	A273
with GRYZOR disk	£16.50	A274

*Cass options include *Lords of Midnight* on cassette as free extra.

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GUANTLET II DISK	£11.95	A276
MATCH DAY II CASS	£6.95	A277
MATCH DAY II DISK	£11.95	A278
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COMBAT SCHOOL DISK	£11.95	A280
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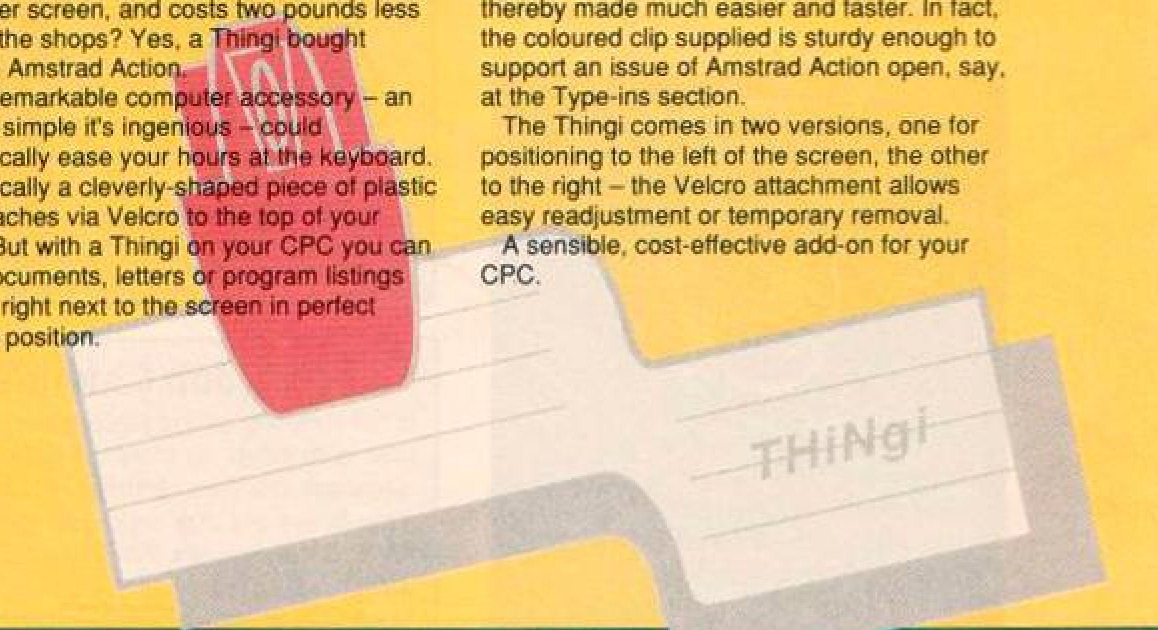
What's white, dangles paper next to your computer screen, and costs two pounds less than in the shops? Yes, a Thingi bought through Amstrad Action.

This remarkable computer accessory – an idea so simple it's ingenious – could dramatically ease your hours at the keyboard. It's basically a cleverly-shaped piece of plastic that attaches via Velcro to the top of your micro. But with a Thingi on your CPC you can have documents, letters or program listings clipped right next to the screen in perfect reading position.

Any task involving copying off paper is thereby made much easier and faster. In fact, the coloured clip supplied is sturdy enough to support an issue of Amstrad Action open, say, at the Type-ins section.

The Thingi comes in two versions, one for positioning to the left of the screen, the other to the right – the Velcro attachment allows easy readjustment or temporary removal.

A sensible, cost-effective add-on for your CPC.





Only £12.95 – including free blank disk!

This will do for your disks what an AA binder does for your AAs. Keep 'em tidy. The box is made from top-quality perspex and features a tinted, hinged, lockable lid.

It's specially designed to take Amstrad 3" disks and will hold and display 20 including their cases or 40 without cases. A set of 20 dividers included with the box can be used to lay your hand instantly on the disk you need. A classy way to keep your worktop organised.

AA DUST COVERS

2-piece set only £6.95

Let's face it, computers don't like dust. Over a period of time it can make them very ill indeed: disk drives and cassette decks in particular can suffer serious, sometimes fatal damage.

A set of dust covers provides a neat solution. And there's the added bonus of smartening up the hardware's appearance when it's not in use.

The specially-commissioned Amstrad Action covers are made from high-quality, water (and coffee) proof PVC. They're coloured a gentle beige with smart blue trimming and matching AA logo.

You can order a 2-piece set tailor-made for your CPC system – just choose the correct order code from the list next to the order form.

ORDER CODES

here and on the preceding pages

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CPC 664 mono	£6.95	A210
CPC 664 colour	£6.95	A211
CPC 6128 mono	£6.95	A212
CPC 6128 colour	£6.95	A213
THINGI left-of-screen	£5.95	A214
right-of-screen	£5.95	A215
DISK BOX (with free disk)	£12.95	A216
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AA BACK ISSUES		
ISSUE 7	£1.00	AA7
ISSUE 8	£1.50	AA8
ISSUE 9	£1.00	AA9

For issues 10-26 use codes AA11-26.
The price of each issue is listed in the Back Issues panel on this page.

SPECIAL OFFER
Master Machine Code on your Amstrad CPC 464 & 664 .... Order code A284

24-HOUR HOTLINE

☎ 0458-74192

If you own Access or Visa credit cards you can place your order by telephone at any time of day or night, seven days a week. Just dial 0458-74192 and be ready with your name and address, credit card number and expiry date, and the details of the software you wish to order. Alternatively, if you prefer a human being to an answerphone, you can ring 0458-74011 during office hours and ask for "Credit Card Orders".

REAR VIEW

A sideways look at the world of computing, plus Sugarman!

Government Gamers

I'll bet you didn't know there were games freaks hidden away in the Cabinet? The awful truth was revealed by this publicity still from Konix.

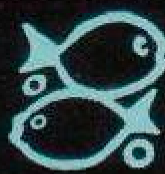
They've just opened a new factory, after 12 months of fantastic success with the Speed King joystick, the ceremony being attended by Peter Walker, the Secretary of State for Wales, and Michael Foot, MP for Blanau Gwent and ex-leader of the Labour party.



We're a bit dubious about whether they sent us the correct picture because the two guys on the left are spitting images of: 1 – the up and coming salesman, with vaseline on his teeth, bursting into the shot to try to sell you a joystick; 2 – chief waggle tester of the Speed King.

Horoscope

AA's monthly honest horoscope for CPC users



Pisces (Feb 19 – Mar 20)

You have a vivid imagination and often pretend that *Out Run* is a game. You are bossy and never let your relatives use your computer. You lack confidence, are generally a coward and have never got a high-score in *Barbarian*. Pisces people do terrible things with joysticks.

Rush Job Calendar

In the computer industry there's never enough time to do things. So to try to help understand magazine deadlines, programmer schedules, game delays and such we've altered the calendar a little. When using it remember to apply these rules:

1. All software takes too long to write. With this calendar the software house can order the program on the 7th and have it delivered on the 3rd.

2. All deadlines are met on Fridays, so there are two Fridays in each week.

3. There are seven extra days at the end of the month for those deadlines that you didn't quite make earlier.

4. There are no "first of the month bills" to be paid because there isn't any 1st. The 10th and 25th have also been omitted just in case you've been asked to pay on one of these days.

5. Saturdays and Sundays have been omitted so that there are no non-productive days and no time-and-a-half to pay.

6. A new day has been introduced each week called Sugarday. It's a day of rest when everyone worships the man himself.



SUGARMAN



INTER GALACTIC HAVOC! A METEORIC MAD HOUSE! IT'S SPACE AGE.....

BEDLAM



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Screen shot from Spectrum version.



Screen shot from Amstrad version.



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